

ENTIN, A.I., dotsent; RAFES, Yu.I.

ACTH therapy in a case of severe drug hypersensitivity. Sov.med.
20 no.5:84-85 My '56. (MIRA 9:9)

1. Iz kafedry fakul'tetskoy terapii (zav. - dotsent E.V.Khait)
sanitarno-gigiyenicheskogo fakul'teta Dnepropetrovskogo meditsin-
skogo instituta (dir. - dotsent D.P.Chukhrijenko)

(SULFANILAMIDE, injurious effects,
allergic reaction, ACTH ther. (Rus))

(ACTH, therapeutic use,
sulfanilamide allergy (Rus))

(ALLERGY, etiology and pathogenesis,
to sulfanilamide, ACTH ther. (Rus))

RAFES, Yu.I.

"Electronmicroscopy of blood corpuscles." IU.Aleksandrovich,
IU.Bliukharskii, A.Fel'tynovskii. Reviewed by IU.I.Rafes. Klin.
med. 33 no.11:93-95 N '55. (MLRA 9:7)
(ELECTRONMICROSCOPE) (BLOOD CELLS)
(ALEKSANDROWICZ, J.) (BLICHARSKI, J.)
(FELTYNOWSKI, A.)

RAFE, E.L.

Effect of external medium on excitation of atomic spectra
in arc discharge. K. N. Mozhayev and E. L. Rafe. *Soviet*
Phys. Tech. Phys. 1, 487-92 (1957) (English translation).
See *C.A.* 50, 10517d. B. M. R.

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myr

Raff, E.L.

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THE EFFECT OF ATMOSPHERE MEDIA ON THE EXTRACTION OF ATOMIC SPECTRA IN ARC DISCHARGE. K. N.

Mochalov, and E. L. Raff. Zhur. Tekh. Fiz. 26, 505-10

(1956) Mar. (in Russian)

Previous experiments described samples of 26 metals whose spectral characteristics changed with the change of air to pure argon atmosphere. It was established that pure argon intensified the ion lines and weakened or suppressed the lines of neutral atoms. Such redistribution of intensities of electrode substance spectral lines substantiates the concept that the atmospheric media considerably affects the process of spectra excitation by the gas participation in the processes connected with discharge mechanism. The amplification of ion lines and weakening of atomic lines result from the increase of the arc temperature of argon, as the ionization potential of argon is 15.7 ev which is considerably higher than the effective air ionization potential of 12 ev. Electrons of spectra excitation are practically in thermal equilibrium with the ions. The increased temperature increases the ionization of the electrode vapors and reduces the concentration of neutral atoms. To prove the above point the air was replaced by helium media (ionization potential 24.6ev) which produced even stronger intensification of ion lines and weakening of atomic lines. Investigations were made with samples of Al, Be, V, Fe, Ca, Co, Si, Li, Mn, Mg, Cu, Ni, Ti, Cr, and Zn, in helium, argon, and air atmospheres. (R.V.J.)

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Raff
Sci

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1-Emf

Raff
227

S/058/61/000/007/039/086
A001/A101

AUTHOR: Raff, Ye.L.

TITLE: Using a-c arc burning between metallic electrodes in argon for spectral analysis

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 173, abstract 7G122
("Dokl. Mezhvuz. nauchn. konferentsii po spektroskopii i spektr. analizu". Tomsk, Tomskiy un-t, 1960, 62 - 64)

TEXT: It is noted that a marked enhancement of lines of singly ionized atoms (in relation to continuous spectrum background) is observed in the a-c arc spectrum in the argon atmosphere, as compared with the spectrum of an arc burning in air, as well as disappearance of the band spectrum of CN molecules. These specific features of the arc in argon atmosphere are used to increase the sensitivity of determining small quantities of Ti (0.02-0.35%) and V (0.10-0.40%) in steel. ↙

M. Britske

[Abstracter's note: Complete translation]

Card 1/1

USSR / General and Specialized Zoology. Insects.

P

Abs Jour: Ref Zhur-Biol., No 2, 1958, 6861.

Author : Rafes, P. M.

Inst : Not given.

Title : The Injurious Insects of the Oleaster, Calligonum and Tamarisk which Grow in the Narynskiy Sands of the Semi-desert Trans-Volga Region.

Orig Pub: Entomol. Obozreniye, 1956, 35, No 4, 805-817.

Abstract: The species composition and the biology of injurious insects found on the oleaster, calligonum and tamarisk; the observations of those insects whose harmful activities have received little attention in the literature, are given here in all details. The damages done by the most numerous and injurious species are described. (Tortricidae of oleaster, Psyllidae Trioza magnisetosa var. orientalis, oleaster moth Anarsia

Card 1/2

RAFES, P.M.

Insects injurious to forests of the Taryn sands in the trans-Volga
semidesert areas [with summary in English]. Zool.zhur. 36:
no.10:1455-1466 0 '57. (MIRA 10:11)

1. Institut lesa AN SSSR.
(Urda region--Forest insects)

USSR/Physical Chemistry - Atom. B-3

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 59

Author: Mochalov, K. M. and Raff, E. L.

Institution: None

Title: The Influence of the External Medium on the Excitation of Atomic Spectra in Gas Discharges

Original
Periodical: Zh. tekhn. fiziki, 1956, Vol 26, No 3, 505-510

Abstract: In connection with the dependence of the arc column temperature on the magnitude of the effective ionization potential of the medium filling the discharge gap as well as with the relatively small concentration of electrode substances in the arc gases, it is pointed out that the external atmosphere has a great effect on the processes which lead to the excitation of electrode spectra. Changes in the spectra of Al, Be, V, Fe, Ca, Co, Si, Li, Mg, Mn, Cu, Ni, Ti, Cr, Zn were studied when air was replaced by helium. This caused an intensification of the lines and a weakening of the atomic lines in the spectra of these

Card 1/2

USSR/Physical Chemistry - Atom, B-3

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 59

- . Abstract: elements. This indicates that when air is replaced with other gases having lower ionization potentials, a strengthening of the atomic and a weakening of the ionic lines will be observed. This supposition was confirmed by studies on the spectrum of the arc formed between an iron and a graphite electrode in an argon flush and in iodine vapor. It is indicated that the external medium has a selective effect on the volatility of the electrode substances which can totally change the relative concentration of the components of the specimen in the discharge zone.

Card 2/2

RAFES, Yu.I., kand.med.nauk (Dnepropetrovsk)

Polish physicians of the 14th to 18th centuries. Sov. zdrav. 21 no.4:
49-53 '62. (MIRA 15:5)

(POLAND—PHYSICIANS)

KLEYTMAN, Samuil Lazarevich; LAGUNOV, Lazar' Yakovlevich; GRINCHENKO, Trofim Ivanovich; RAFF, M.I., inzh., otv. red.; KURILOVA, T.M., red.; TROFIMENKO, A.S., tekhn. red.

[Traffic safety]Bezopasnost' dvizheniia avtomobilei. Khar'kov, Izd-vo Khar'kovskogo univ., 1962. 206 p. (MIRA 16:2)
(Traffic safety)

ODINTSOV, M.G.; RAFF, Ye.L.; TRUTNEVA, Ye.P.

Luminescence bands in a d.c. arc between iron electrodes in argon. Izv. vys. ucheb. zav; fiz. no.1:14-15 '63. (MIRA 16:5)

1. Kazanskiy gosudarstvennyy meditsinskiy institut i Kazanskiy filial AN SSSR.

(Electric arc)

(Spectrum analysis)

RAFF, Ye.L.

Spectral determination of small concentrations of titanium and
vanadium in a complex chromium-nickel-molybdenum alloy. Zav.
lab. 31 no.2:184 '65. (MIRA 18:7)

1. Kazanskiy meditsinskiy institut.

RAPF, Ye. L. Cand Phys-Math Sci -- "Redistribution of the intensities of spectral lines in the radiation of an arc between metal electrodes in ^{an arc} ~~the~~ atmosphere." ~~from~~ Kazan', 1960. (Min of Higher and Specialized Secondary Education RSFSR Kazan' Order of Labor Red Banner State Univ in V. I. Ul'yanov-Lenin). (KL, 1-61, 180)

-80-

ZERDIK, Mladen, prof., dipl. inz.; RAFFAELLI, Dubravka, dipl. inz.,
asistent

Self-inflammability of oiled raw silk. Tekstil Zagreb 18
no. 1: 14-20 Ja '64.

1. Predstojnik Zavoda za tekstilnu kemijsku tehnologiju
Tehnoloskog fakulteta Sveucilista u Zagrebu (for Zerdik).
2. Zavod za tekstilnu kemijsku tehnologiju Tehnoloskog fakul-
teta Sveucilista u Zagrebu (for Raffaelli).

Laffan, L., M.D.

Treatment of severe bronchial asthma and status asthmaticus with intravenous prednisolone. Ther. Hung. 13 no.1333-35 '66.

1. Department of Allergic Diseases (Head: K. Hajos) National Institute of Rheumatology and Balneology, Budapest.

Raff, E.L.

1535.33.03
8083. PART PLAYED BY THE EXTERNAL MEDIUM IN
THE EXCITATION OF ATOMIC SPECTRA IN THE ARC DIS-
CHARGE. K.N.Mechalov and E.L.Raff.

Zh. tekhn. Fiz., Vol. 26, No. 3, 305-10 (1956). In Russian.

Atomic spectra of Al, Be, V, Fe, Ca, Co, Si, Li, Mg, Ni, Ti, Cr and Zn were found to be weaker when the arc was maintained in a He atmosphere than in A or air, whereas the reverse obtained for the ionic spectra. On the other hand, Fe spectrum, when obtained in I vapour, had stronger atomic lines and weaker ionic lines than in air. These findings prove once more that the part played by the medium may affect the evaporation of the electrode substance.

F.Lachman

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2

MOCHALOV, K.N.; RAFF, E.L.; TEREININ, A.N., akademik.

Redistribution of the intensity of spectral lines of elements in discharge through argon. Dokl.AN SSSR 91 no.5:1067-1070 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Terenin). 2. Kazanskiy khimiko-tekhnologicheskii institut im.S.M.Kirova.
(Spectrum analysis) (Electric discharges through gases) (Argon)

Redistribution of the intensities of spectral lines of elements in a discharge in argon. K. N. Michalov and B. L.

Raif (S. M. Kirov Chem-Technol. Inst., Kazan), Doklady Akad. Nauk S.S.S.R. 91, 1067-70 (1953) (Engl. translation issued as U.S. Atomic Energy Comm. N.S.F-tr-174, 4 pp. (1954)).—The pt. spectra of a no. of metals are observed both in an arc in air and an arc in an atm. of A. In going from air to A, the arc spectrum lines are observed to decrease in intensity, the spark spectra lines to increase. A few observed anomalies are attributed to wrong identification as arc or spark lines in published lists. The Fe lines 2431.024, 2503.62, 2549.874, 2548.030, 2551.002, 2553.185, 2552.299, 2925.791, and 3174.96 are identified as arc lines and 2469.512, 2852.13, and 2896.96 as spark lines. The following elements were investigated: Li, Cu, Ag, Mg, Ca, Zn, Al, Ce, Si, Ti, Sn, Pb, V, Cr, Mo, W, Mn, Fe, Ni, and Pt.

K. G. Kessler

~~Re: Mikhail L. Lichy, UZ/HD/85~~ Aleksandr Markovitch; MINAB, V., veduchiy
reinktor; BSCPIATOV, B., tehnikichiy redaktor

[Dispatcher service in automotive transportation] Dyaspetchers'ka
sluzhba na avtomobil'nomu transporti. Kyiv, Derzh. vyd-vo tekhn.
lit-ry URSR. 1957. 114 s. (MLBA 10:10)
(Transportation, automotive)

SOV/138 58 6 12/29

AUTHOR: Raff, Ye. L

TITLE: Temperature of a D.C. Arc, Burning in an Atmosphere of Argon between Metal Electrodes (Temperatura dugi postoyannogo toka mezhdur metallicheskimi elektrodami goryashchey v atmosfere argona)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 6, pp 77-78 (USSR)

ABSTRACT: A re-distribution of intensities of spectral lines occurs in d.c. and a.c. arcs burning in argon at atmospheric pressure: ionic lines are strengthened and atomic lines are weakened. The author and Mozhailov (Ref 1) suggested that this is due to a rise of the plasma temperature of the arc. The present paper deals with measurements of temperature in a low-current (6A) d.c. arc burning in chemically pure argon (0.27% of nitrogen, 0.05% of oxygen) at 770 mm Hg pressure between iron and copper electrodes. Temperature was measured spectrally using ionic lines with known transition probabilities. The author used ionic lines of titanium whose transition probabilities were taken from a paper

Card 1/2

SOV/139-58-6-12/29

Temperature of a D.C. Arc, Burning in an Atmosphere of Argon
between Metal Electrodes

by R.B.King and K.B.King (Ref 8). The arc was burning in a glass tube with a quartz window and the inter-electrode distance was 3 mm. The spectrum was recorded by means of an ISP-22 spectrograph. The line intensities were measured by means of a microphotometer, MF-2. Titanium lines were due to 0.1% of titanium in the steel EI-274 used to make one of the electrodes. The other electrode was a copper rod of 6 mm diameter. The author measured intensities of 25 ionic lines of titanium and constructed a graph with coordinates with $\log (I/P) E$, where I is the line intensity, P the transition probability and E the energy of the upper level. The slope of the graph gave the absolute temperature of the arc plasma as 6100°K and 5700°K. The mean plasma temperature was taken to be 6080°K. There are 9 references of which 8 are Soviet and 1 English.

ASSOCIATION: Kazanskiy Medinstitut (Kazan Medical Institute)
SUBMITTED: 28th April 1958

Card 2/2

USSR/Physics - Gas Discharge

11 Aug 53

"Redistribution of Intensities of Spectral Lines of Elements During Discharge in Argon," K. N. Mochalov and Ye. L. Raff, Kazan Chemicotechnolog Inst im Kirov

DAN SSSR, Vol 91, No 5, pp 1067-1070

Studied spectra of metals and alloys excited in argon and compared them with spectra in air under identical conditions. Results showed that in argon spectral lines of Fe ions are enhanced while lines of neutral atoms are weakened. Such

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redistribution of intensities is also observed in spectra of many other metals. Presented by Acad A. N. Terenin 17 Jun 53.

RAFF, Ye. L.

21

RA

Effect of external medium on excitation of atomic spectra in air discharge. A. N. Mochalov and Ye. L. Raff. Zashch. Tekhn. Fiz. 26, 200-10 (1958). The observed ionization potential of at. and ionic lines of emission spectra are determined by the arc temp. The latter is directly related to the effective ionization potential of the medium in which discharge takes place. This potential, as observed by Filchikov and Goryunov (CA 45, 4181b), is not solely determined by the ionization potential of the substance(s) comprising the electrodes, but also to a great extent by the ionization potential of the surrounding medium. In the instance of mixed C-NaCl electrodes 5 mm. apart with arc temp. 5100°K., the concn. of Na vapor in the arc was only 0.5-4%. Analogous observations (CA 48, 8047f) showed an increase in intensity of ionic lines and a weakening of at. lines in the emission spectra of 20 mg. of air as a result of an increase of arc temp. after the substitution of surrounding air with A (i.e., change in ionization potential from 12 e.v. to 15.7 e.v.). In the present work the air was substituted by A and He (ionization potential 24.8 e.v.). The visual brightness and intensity of ultraviolet emission in He atm. at the same arc current were considerably less than those in the presence of A or air. Therefore, it was necessary to increase the exposure time several hundred times. The substitution of medium also caused the spectra of elements to be more similar to those of spark spectra. Specific effects are listed for Al, Be, V, Fe, Ca, Co, Si, Li, Mg, Mn, Cu, Ni, Ti, Cr, and Zn. In order to observe the expected reverse redistribution of intensities (i.e., increase in intensity of at. and decrease of ionic lines), the capillary was carried out in an atm. with ionization potential below that of air. Thus, in Fe spectrum (2320-2800 Å.) in 1 atm. (ionization potential for 1, 10.1 e.v., after dissociation to 1, 10.4 e.v.) the intensity of every ionic line (except 2851.291 Å., which became stronger) decreased, whereas 13 at. lines of observed 15 gained in intensity. The two unexplained exceptions were 2646.427 Å. and 2851.706 Å. In addition, to the type of surrounding medium, the effect of chem. reactions and dissociations at 5000-6000°K., the rate of diffusion, and vapor pressure of substances affecting the overall ionization potentials are briefly discussed.

A. P. Katalov

L 30006-65 EWT(m)/EPT(n)=2/EWP(t)/EWP(b) Pad/Pu-4 IJP(c) JD/HW/JG

ACCESSION NR: AP5005475

S/0032/65/031/002/0184/0184

AUTHOR: Raff, Ye. L.

38
8

TITLE: Spectral determination of small concentrations of titanium and vanadium in a complex alloy of chromium, nickel, and molybdenum

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 184

TOPIC TAGS: spectrum analysis, titanium, vanadium, chromium alloy, nickel alloy, molybdenum alloy

ABSTRACT: A method is described by which the sensitivity of spectral analysis is increased for small concentrations of material and the signal-to-noise ratio is improved. These features are accomplished by using a low-voltage arc discharge between metallic electrodes in argon at atmospheric pressure and by using ionic lines. The method was utilized to measure concentrations of titanium from 0.02 to 0.34% and vanadium from 0.1 to 0.41% in a complex alloy of chromium, nickel, and molybdenum. Comparison measurements were also made in air. The slope of the calibration curves with excitation in argon was increased by two times.

ASSOCIATION: Kazanskiy meditsinskiy institut (Kazan Medical Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, OP

NO REF SOV: 001
Card 1/1

OTHER: 000

RAFFAI, Iren, Dr.

Fatal adrenocortical insufficiency in corticosteroid therapy of asthmatics.
Orv. hetil. 100 no.1:40-42 4 Jan 59.

1. A Szovetseg utcai Korhaz Belgyogyaszati Osztalyanak (foorvos: Hajos
Karoly dr.) kozlemenye.

(ADRENAL CORTEX HORMONES, inj. eff.

fatal adrenocortical insuff. caused by overdos., case re-
ports (Hun))

(ADRENAL CORTEX, dis.

insuff., fatal, caused by overdos. in corticosteroid ther.,
case reports (Hun))

RAFFAELLI, F.; SAKAC, K.

The results of recent explorations of Triassic high-silicious bauxites of Grgin Brijeg in Lika. Bul se Young no. 1/2: 4-5 F-Ap '63.

1. Institut za geoloska istrazivanja JRM, Zagreb.

RAFFAELLI, Petar (Zagreb)

Albite of Smilevski Dol in Selecka Mountain, Macedonia. Geol vjes
Hrv 14:133-143 '60 (publ '61).

1. Geological Institute of the People's Republic of Croatia,
Zagreb, Kupska 2.

RAFFAJ, A.

RAFFAJ, A. - New series of standard models of a factory traveling crane. II.
p. 267, Vol. 8, no. 7, July 1956
GEP - Budapest, Hungary

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4 - April 1957

SNAID, V.; BUDINSKA, E.; CERNOCH, A.; FINKOVA, A.; GAZAREK, F.; POKORNY, J.;
RAFFAJ, K.

Diagnosis and surgical treatment of insufficiency of the cervix
uteri in pregnancy. Cesk. gynek. 29 no.4:254-258 My'64

RAFFAY, Bala, vegyeszmernok (Budapest)

How to calculate the reward? Ujit lap 12 no.10:31 30 My '60.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES

13

Chemistry in the service of modern warfare. Bela Raffay. *Termosztud. Közöny* 70, 615 19(1938).--The importance of artificial fog and incendiary bombs in modern warfare and their relation to chemistry are described. S. S. de Finafy

13

ASTM S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

21

Determination of cresosote in brown-coal tar oils. Reasch, Fridl and Béla Raffay. *Magyar Chem. Folyirat* 40, 125-35 (1934). Oils rich in cresosote require more concentrated alkalis for the detn. The oils should previously be completely dehydrated. If the content in acid oils exceeds 40 vols. Ce , the original oils should be diluted with a neutralized fraction to diminish any possible errors. The content in acid oils cannot be calculated on the basis of the vol. of the cresosote Na layer but is calculated from the vol. decrease of the original oil. The detn. of contents in acid oils on the basis of the Br no. seems to be a practically available method but further expts. in this direction are required.

S. S. de Finály

PROCESSING AND REPRODUCTION																									
ORIGINALS													REPRODUCTION												
ASPH-SLA METALLURGICAL LITERATURE CLASSIFICATION													REPRODUCTION												
13 Evaluation of war gases. Béla Raffay. <i>Természeti</i> <i>Közlemények</i> 70, 485-9 (1938).--General discussion. S. S. de Finálv																									

SHIRINENKO, K., polkovnik; SHTIVEL'BAND, M., polkovnik; RAFFE, Ye.,
polkovnik.

Electric case with sand. Voen.vest. 36 no.11:43-46 N '56.
(MLRA 10:2)

(Sand tables (Military science))

RAFFE, Ye., polkovnik zapasa.

Device for hoisting and reeasing parachute targets. Voen.vest.36
no.2:71-74 F '57. (MIRA 10:3)
(Target practice)

RAFFY, Adam, dr. o.v.foorvos

Vitamin E and climacterium. Orv. hetil. 95 no.44:1213-1216
31 Oct 54.

1. Budapest XIII. ker. Tanacs Kiss Jozsef utcai Rendelointezete
(igazgato: Sonkoly Odon dr.) Nogyoegyaszi Osztalyanak kozlemenye.
(VITAMIN, E, ther. use
climacteric, female)
(CLIMACTERIC, FEMALE, compl.
ther., vitamin E)

RAFIBEKOV, F.M.; VASERMAN, N.L.

Pattern making for shoe uppers and sole parts of children's sandals
manufactured with the stitchdown method. Len.prom. no.1:29-31 Ja-
Mr '63. (MIRA 16:4)

1. Eksperimental'naya fabrika Ukrainского nauchno-issledovatel'skogo
instituta kozhevennoy promyshlennosti.

RYBAL'CHENKO, O.K.; RAFIBEROV, F.M.

Improved lips of the middle pincers of the CM-2 lasting machine.

Leh.prom. no.1:45-46 Ja-Mr '63.

(MIRA 16:4)

1. Eksperimental'naya fabrika Ukrainskogo nauchno-issledovatel'skogo instituta kozhevennoy promyshlennosti.

RAFIBEKOV, S.D. (Frunze)

Work of the Kirghiz Republic Clinical Hospital. Sov.zdrav. 21
no.10:77-78 '62. (MIRA 15:10)

1. Glavnyy vrach Kirgizskoy respublikanskoy klinicheskoy
bol'nitsy, Frunze.

(KIRGHIZISTAN--MEDICINE, RURAL)

RAFIREYLI, N.M.

Effect of a porous medium on the saturation pressure. Azerb.
neft. khoz. 38 no.6:21-22 Je '59. (MIRA 12:10)
(Oil reservoir engineering)

RAFIBELI, N. M. (Baku)

"A Contribution to the Study of Hysteresis Phenomena in Gas Dissolving and Releasing Processes."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

AUTHOR: Rafibeyli, N.M. (Baku)

SOV/180-59-2-33/34

TITLE: The Influence of a Porous Medium on the Value of Saturation Pressure (O vliyanii poristoy sredy na velichinu davleniya nasyshcheniya)

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 2, pp 173-174 (USSR)

ABSTRACT: Experimental work was carried out using a modernised mercury apparatus SKB-5 on an oil bed with permeability 10, 17 and 67 Darcy and with oil of viscosity 2.5, 2.75, 4.6, and 5.14 cp., and specific weight 0.840, 0.843, 0.860, 0.862. A mercury bomb with a definite saturation pressure was used together with a porous bomb. The sand in the porous bomb is saturated with oil containing no gas. This is displaced by gassed oil when the pressure of the dissolved gas corresponds to the saturation pressure in the mercury bomb. Thus the saturation pressure in a porous medium is found. It was shown that oil is not adsorbed by sand. The following equation is given:

$$p = f(p_o, m, k, \rho_n, \rho_g, \mu_n, \mu_g)$$

Card 1/2

SOV/180-59-2-33/34

The Influence of a Porous Medium on the Value of Saturation Pressure

where p_0 = saturation pressure without a porous medium,
 m = porosity, k = permeability, ρ_n, ρ_g = density of oil
 and the gas, μ_n, μ_g viscosity of oil and gas.
 It follows from this that:

$$\frac{p}{p_0} = f \left(\beta, m, \frac{\rho_n}{\rho_g}, \frac{\mu_n}{\mu_g} \right) \quad \text{where } \beta = \frac{k \rho_n p_0}{(\mu_n)^2} \quad (1)$$

It was shown that p/p_0 is not influenced by μ_n/μ_g or ρ_n/ρ_g and that the oil viscosity is inversely proportional to the permeability. An increase in m gives an increase in p/p_0 , and an increase in k , a decrease in p/p_0 .

Card 2/2

There are 1 table and 2 references, 1 of which is Soviet and 1 English.

SUBMITTED: December 16, 1958

L 29855-66 EWT(m)/ENP(j) JAJ/RM
 ACC NR: AP6013212 SOURCE CODE: UR/0421/66/000/002/0130/0132 2
 AUTHOR: Ragimov, O. P. (Baku); Rafibeyli, N. M. (Baku) 2/5
 ORG: none
 TITLE: Determination of the dynamic saturation pressure of a mixture of isooctane and carbon dioxide in the presence of a porous medium
 SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 2, 1966, 130-132
 TOPIC TAGS: carbon dioxide, porosity
 ABSTRACT: The experiments were conducted in a specially built unit consisting of a mercury press, a high pressure vessel with a porous medium, thick wall vessels for mercury and air, standard manometers, a device for determination of the amount of gas in solution, a magnetic differential manometer, and a thermostat. A diagram of the equipment is shown. The porous medium was quartz sandstone, previously washed and dried. The experiments were run on samples having an initial permeability of 0.1, 0.6, and 2.6 darcies. The experimental results are given in a table. These results include measurements of the dynamic saturation pressure, in the presence of a porous medium; it was found
 Card 1/2

L 29855-66

ACC NR: AP6013212

to be 10-15 bar higher than the static saturation pressure, determined in the absence of a porous medium, and 5-10 bar higher than the static saturation pressure, determined in the presence of a porous medium. With an increase in the initial permeability the effect of the porous medium on the value of the saturation pressure decreases. "The author thanks A. Kh. Mirzadzhenzade for proposing the work and for his direction during its completion." Orig. art. has: 3 figures and 3 tables.

SUB CODE: 20/ SUBM DATE: 19Dec64/ ORIG REF 003

Card 2/2 *KV*

SADYKH-ZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Determination of the dynamic pressure of initial condensation in the presence of a porous medium. Izv.vys.ucheb. zav.; neft' i gaz 6 no. 12:33-34 '63. (MIRA 17:5)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po
dobyche nefti.

DURMISH'YAN, A.G. (Baku); MAMEDOV, Yu.G. (Baku); MIRZADZHANZADE, A.Kh.
(Baku); RAFIBEYLI, N.M. (Baku); SADYKH-ZADE, E.S. (Baku)

Experimental investigations of hydrodynamic and thermodynamic
properties of gas-condensate mixtures flowing in a porous medium.
Izv.AN SSSR. Mekh.i mashinostr. no.1:133-136 Ja-F '64.

(MIRA 17:4)

SADYKHZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Effect of rock gas sorption on permeability. Izv. vys. ucheb.
zav.; neft' i gaz 6 no.8:45-49 '63. (MIRA 17:6)

1. Azerbaydzhanskiy institut nefti i khimii imeni M. Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti.

RAFIBEYLI, N.M.

Effect of hysteresis on well flow. Izv. AN Azerb. SSR. Ser.
Fiz.-mat. i tekhn. nauk no.5:135-142 '59. (MIRA 13:3)
(Oil reservoir engineering)

RAFIBEYLI, N.M. (Baku)

Effect of porous media on the degree of saturation pressure.

Izv. AN SSSR. Otd. tekhn. nauk Mat. i topl. no.2:173-174 Mr-Apr
'59. (MIRA 12:6)

(Oil reservoir engineering)

DURMISH'YAN, A.G.; MAMEDOV, Yu.G.; MIRZADZHANZADE, A.Kh.; KAFIBEYLI, N.M.;
SADYKH-ZADE, E.S.

Experimental investigations of the hydrodynamic and thermodynamic properties of gas-condensate mixtures during seepage in a porous medium. Dokl. AN Azerb. SSR 20 no.8:31-35 '64.
(MIRA 17:12)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy neftyanoy institut.

RAFIKI, M.I.

General electrographic investigation of anaphylactic shock. Uch.zap.
Len.un.no.176:203-217 '54. (MLRA 9:9)
(ANAPHYLAXIS) (ELECTROPHYSIOLOGY) (SHOCK)

RAFIKI, M.I.

Dynamics of changes in the electrocardiogram during the development of anaphylactic shock. Uch.zap.Len.un. no.164:136-150 '54.

(MLRA 10:3)

(ANAPHYLAXIS) (ELECTROCARDIOGRAPHY) (SHOCK)

RAFIKI, M. I (Dobert)

600

USSR (600)

Physiologists: Vvedenskiy, Nikolay Yevgen'yevich, 1825-1922

"Nikolay Yevgen'yevich Vvedinskiy; 100th Anniversary of Birth"
Fel'd. 1 akush. No4, 1952

SO: Monthly List of Russian Accessions, Library of Congress, August 1952, UNCL

Rafikov, A. Kh.

USSR/ Miscellaneous - Conferences

Card 1/1 Pub. 124 - 36/39

Authors : Rafikov, A. Kh.

Title : Scientific and cultural relations with countries of the foreign East

Periodical : Vest. AN SSSR 26/2, 136-138, Feb 1956

Abstract : Minutes are presented from the conference held at the Library of the Acad. of Sc., USSR where the scientific and cultural relations between the USSR and countries of the foreign East (India, Burma, Pakistan, Japan, Lebanon, etc.) were discussed.

Institution :

Submitted :

KHAYDAROV, A.Kh. prof., HAFIKOV A.H.

Importance of sedimentation cystography in the diagnosis
of tumors of the urinary bladder. Nauch. trudy SamMI
22:112-114 '69. (MIRA 17:9)

1. In gosпиталь'noy khirurgicheskoy klinike Samarkandskogo
meditsinskogo instituta.

RAFIKOV, Ch.F.

Glove leather made of colt skins. Leg. prom. 18 no.3:55 Mr '58.
(Leather) (MIRA 11:4)

RAFIKOV Ch.F.

RAFIKOV Ch.F., inzh.

Effect of liming and fleshing conditions on the quality of imitation
kidskin made of fat, steppe-grown sheepskins. Leg.prom. 16 no.10:31-33
0 '56. (MIRA 10:12)

(Tanning)

5/1/90
15.8.100

S/190/62/004/004/006/019
B119/B138

AUTHORS: Stepukhovich, A. D., Bortnichuk, A. L., Rafikov, E. A.

TITLE: Effect of colloidal gold and thallium on the kinetics and mechanism of initial polymerization of styrene in block and in solution. I

ABSTRACT: *Vysokomolekulyarnyye soyedineniya*, v. 4, no. 4, 1962, 516-522

TEXT: Styrene was polymerized (boiling point 75.5°C) in block and in toluene solution in the presence of colloidal gold at 60, 80, and 95°C.

The Au content was varied between $0.37 \cdot 10^{-4}$ and $11.84 \cdot 10^{-4}$ gram-atoms/liter. The rate of polymerization was determined from the time variations in specific viscosity. Results: In very small amounts Au acts as initiator, and in larger amounts, as inhibitor, of block polymerization. The Au-content/reaction-rate curve has a maximum which shifts to lower Au content with increasing temperature. In the range of inhibiting Au concentrations the curve obeys the Stepukhovich equation

$\frac{1}{W_p - W_{p0}} = A + Bc_{inh}$; W_p = polymerization rate appropriate for the case 1/2

X

Effect of colloidal gold and thallium ... 3/196/62/004/004/006/019
B119/B136

concentration c_{inh} of inhibitor, W_1 = residual rate). No limiting inhibition value was observed with respect to Au concentration. Because of its low solubility experiments with Tl were made with minimum amounts (it was added as $Tl(NO_3)_3$ or oxidized filings), and had qualitative character only. Tl inhibited the polymerization of styrene. There are 3 figures and 2 tables.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: March 9, 1961

Carl M/A

STEPUKHOVICH, A.D.; MALANIN, V.A.; RAFIKOV, E.A.

Effect of colloidal cadmium and zinc on the kinetics and mechanism
of the initial stage of block polymerization of methyl methacrylate.
Vysokom. soed. 6 no.4:695-698 Ap '64. (MIRA 17:6)

1. Saratovskiy gosudarstvennyy universitet imeni N.G.
Chernyshevskogo.

06291

S/190/62/004/004/001/019
B119/3138

S. 1190
18.8.62

AUTHORS: Stepanukhovich, A. D., Bortnichuk, A. L., Rafikov, E. A.

TITLE: Effect of colloidal gold and thallium on kinetics and mechanism of initial polymerization of styrene in block and in solution. II

ABSTRACT: *Vysokomolekulyarnyye soyedineniya*, v. 4, no. 4, 1962, 523-527

TEXT: This is a quantitative evaluation of the experimental results obtained in the previous paper (*Vysokomolek. soyed.*, 4, 516, 1962). The initiating effect of minimum amounts of colloidal gold in styrene block polymerization is explained by the reaction: styrene peroxide + Au → Au⁺ + active radicals. This also explains the drop in the height of the maximum on the Au concentration/polymerization rate curve when the reaction temperature is raised. The activation energy for the inhibition of chain growth by colloidal gold particles is calculated from the temperature dependence of the coefficients A and B (in the equation $\frac{1}{W_p - W_{p0}} = A + Bc_{inh}$; W_p = polymerization rate appropriate

Card 1/2

Effect of colloidal gold and thallium ... 3/190/62/004/004/007/019
B119/B138

For the concentration c_{inh} of inhibitor, W_{∞} = residual rate). The activation energy is around, -14 to -17 kcal/mole, and varies with the degree of polymerization. The inhibition is probably due to a trimolecular reaction in which the excess recombination energy of two radicals is released to a colloidal Au particle. There are 1 figure and 1 table.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: March 9, 1961

Card 2/1

S/190/62/004/002/003/021
B110/B101

AUTHORS: Stepukhovich, A. D., Rafikov, E. A., Bortnickuk, A. L.
TITLE: Effect of colloidal platinum on kinetics and mechanism of initial block polymerization of styrene. II
PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 182 - 187

TEXT: To clarify the effect of Pt on the initial rate of styrene polymerization (Ref. 1: Vysokomolek. soyed., 4, 85, 1962) the authors tried to generalize the quantitative theory of the braking effect of inhibitors (A. D. Stepukhovich, Dokl. AN SSSR, 89, 889, 1953). A start is made from the empirical equation $1/(W_p - W_\infty) = A + Bc_{inh}$ (1). Neglecting the initiation rate of radicals as compared with the reaction rate of chain growth, $W_p = k_g[M][R]$; $2k_{in}[M] = k_v[R] + k_w[R] + k_{inh}c_{inh}$ (2)

is obtained for $d[R]/dt = 0$, where $[R]$ = total concentration of polymer radicals in steady state; k_{in} , k_g , k_v , k_w , k_{inh} = rate constants of Card 1/4

Effect of colloidal platinum ...

S/190/62/004/002/003/021
B110/B101

initiation, growth, and chain termination in the volume, on the walls and inhibitor particles, respectively, and $[M]$ = monomer concentration. This gives: $1/(W_p - W_\infty) = k_w/2k_{in}k_g[M]^2 + (k_{inh}/2k_{in}k_g[M]^2) \cdot c_{inh}$ (6).

The coefficients A and B are: $A = k_w/2k_{in}k_g[M]^2$; $B = k_{inh}/2k_{in}k_g[M]^2$ (7). ✓

As the polymerization degree increases, Eq. (6) becomes: $1/(W_p - W_\infty) = Bc_{inh}$. For $c_{inh} = 0$, (1) becomes: $A \approx 1/k_g[M][R]$ (9). The steady condition for $c_{inh} = 0$ is: $2k_{in}[M] = k_o[R]^2$. After solution with respect to $[R]$ and substitution into Eq. (9): $A = k_o^{1/2} / (\sqrt{2k_{in}} k_g[M]^{3/2})$ (10).

The ratio of B coefficients for the temperatures T_1 and T_2 is:

$$B_1/B_2 = [(k_{inh})_1 \cdot (k_{in}k_g)_2] / [(k_{inh})_2 \cdot (k_{in}k_g)_1] \quad (11). \quad E_{inh} = (E_{in} + E_g)$$

- $[RT_1T_2 \cdot \ln(B_1/B_2)] / (T_2 - T_1)$ (13) is calculated from the experimental

value for B_1/B_2 . $(k_{inh})_1/(k_{inh})_2 = [(k_w(B/A))_{T_1}] / [(k_w(B/A))_{T_2}]$ (15). The

capture energy of radicals by the walls is:

Card 2/4

Effect of colloidal platinum...

S/190/62/004/002/003/02
B110/B101

$E_w = (E_{in} + E_g) - [RT_1T_2 \ln(A_1/A_2)] / (T_2 - T_1)$ (16), where for styrene:

$E_{in} = 29.6$ kcal/mole; $E_g = 7.25$ kcal/mole. Eqs. (13) and (16) hold at 80 and 95°C for 60 min polymerization. Radical recombination prevails in the volume in this case. Since the value of E_{inh} (800 cal/mole) extra-

polated for the zero polymerization degree is less than the activation energy E_o (1500 cal/mole) of the recombination of polymer radicals of

styrene, the inhibition reaction is faster than the recombination. The ratio of the coefficients A at 80 and 95°C is constant with 5.55 for polymerization up to 60 min, and decreases to 3 with increasing polymerization degree. According to Eq. (16): $E_w = 7250$ cal/mole, which corresponds to

E_g . According to Eq. (7): $A_1/A_2 = (k_w/k_{in}k_g)_{T_1} \cdot (k_w/k_{in}k_g)_{T_2}$ (17).

Since $E_w = E_g$, $k_w \approx k_g$, and (17) gives: $A_1/A_2 \approx \exp[(E_{in}/R) \cdot (1/T_1 - 1/T_2)]$ (18).

A transition of the initially bimolecular inhibition of styrene polymerization to a trimolecular mechanism is assumed. The change of the negative activation energy with increasing polymerization degree is probably due to

Card 3/4

Effect of colloidal platinum...

S/190/62/004/002/003/02:
B110/B101

a gradual valence increase until coordination complexes of Pt are formed. The positive activation energy with zero polymerization degree is probably due to the bimolecular character of the reaction because of low radical concentration and pure surface of colloid particles. There are 1 figure and 4 Soviet references. ✓

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: February 1, 1961

Card 4/4

L 20783-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 AEDC(a)/ASD(m)-3/AFETR
ACCESSION NR: AP5003797 RM 8/0190/64/006/008/1359/1365

AUTHOR: Rafikov, E. A.; Alekseyeva, S. G.

TITLE: Comparative study of the kinetics of the thermal block polymerization of styrene by viscosimetric and dilatometric methods

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 8, 1964, 1359-1365

TOPIC TAGS: polystyrene, polymerization, chemical kinetics

ABSTRACT: A comparative study was made of the thermal block polymerization of styrene by viscosimetric and dilatometric measurements, in an effort to determine the limits of applicability of the viscosimetric method. The question of the variation of the intrinsic viscosity with the course of polymerization was subjected to a quantitative analysis by solving a differential equation considering the change in η_{sp}/c with time, proposed on the basis of the Haggins equation. The results of the calculation were found to be in satisfactory agreement with the experimental data. It was shown that under conditions of increasing molecular weight with degree of

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L 20783-65

ACCESSION NR: AP5003797

polymerization, the viscosimetric method of determining the rate is not absolute.
Orig. art.has: 6 graphs, 8 formulas.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo
(Saratov State University)

SUBMITTED: 09Jul63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 005

OTHER: 005

JPRS

Card 2/2

KHAIDAROV, A.Kh., dotsent; RAFIKOV, G.Kh.

Case of echinococcus of the prostate gland. Med.zhur. Uzb. no.11:
70 N '60. (MIRA 14:5)

1. Iz gosptal'noy khirurgicheskoy kliniki Samarkandskogo gosudar-
stvennogo meditsinskogo instituta imeni I.P.Pavlova.
(PROSTATE GLAND—HYDATIDS)

AKHMETZYANOV, Yunus Akhmetzyanovich; PETINA, L.V., red.; SOKOLOVA,
A.V., red.; RAFIKOV, M., red.; VLADIMIRTSEV, V., red.;
TROFIKOVA, A., tekhn. red.

[Tatar cookery]Tatarskie bliuda. Kazan', Tatarskoe knizhnoe
izd-vo, 1961. 127 p. (MIRA 15:12)

1. Chlen Tsentral'nogo kulinarnogo soveta pri Ministerstve
torgovli RSFSR (for Akhmetzyanov).
(Cookery, Tatar)

BADIR'YAN, G.G., prof.; VASIL'YEV, N.V., prof.; KOTOV, G.G., prof.;
RUDAKOVA, Ye.A., prof.; BRAGINSKIY, B.I., doktor ekon.nauk;
GUMENOV, M.N., dots.; ROMANCHENKO, A.V., doktor ekon. nauk;
ABRAMOV, V.A., dots.; ALTAYSKIY, I.P., kand. ekon. nauk;
GAVRILOV, V.I., dots.; RAFIKOV, M.M., kand. ekon. nauk;
VINCKUR, R.D., dots.; RUSAKOV, G.K., dots.; LAVRENT'YEV,
V.N., dots.; GORELIK, L.Ya., red.; PONOMAREVA, A.A., tekhn.
red

[Economics, organization and planning of agricultural produc-
tion] Ekonomika, organizatsiya i planirovanie sel'skokho-
ziaistvennogo proizvodstva Moskva, Ekonomizdat, 1963. 607 p.
(MIRA 16:11)

(Agriculture--Economic aspects)

L 31312-55 EPA(s)-2/ENT(m)/EPF(c)/EPR/ENP(j)/T Pc-L/Pr-L/Ps-L/Pt-10 Wn/RM
 ACCESSION NR: AR5003887 S/0081/64/000/018/S063/S063

SOURCE: Ref. zh. Khimiya, Abs. 18S344

AUTHOR: Rafikov, M. N.; Razinskaya, I. N.; Popova, Z. V.; Shtarkman, B. P.

TITLE: Evaluation of thermal stability of polyvinylchloride from the standpoint of its processing

CITED SOURCE: Tr. po khimii i khim. tekhnol. Gor'kiy, vyp. 2(8), 1963, 303-308

TOPIC TAGS: polyvinylchloride, thermal stability, solubility, latex/ igelit F latex

TRANSLATION: A method has been developed for evaluation of the stability of polyvinylchloride (PVC) and for evaluation of different stabilizers with respect to their ability to prevent crystallization. "PF-special" PVC and "igelit F" latex were studied. Among stabilizers and HCl acceptors which were investigated were Pb stearate (I) and Ca' stearate (II) and PVC decomposition retarders were 2, 4, 6-trihydroxybenzophenone (III), 2, 2', 4, 4'-tetrahydroxysebacophenone (IV), 2, 2', 4, 4' - tetrahydroxydiphenylacane (V) and others. For evaluating the results, the following indexes were used: decrease in solubility of PVC after processing and

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L 31312-65

ACCESSION NR: AR5003887

change in the viscosity of its melt upon heating. It was established that both methods give the same results and PVC becomes insoluble after 50 min of thermal treatment. It was shown that the ability of the stabilizer to retard the thermal dehydrochlorination of PVC does not always coincide with the ability to prevent crystallization. For instance I and II accelerate crystallization while IV retards the rate of cross polymerization. III and V retard both processes.
L. Kotlyarevskaya.

SUB CODE: OC, TD

ENCL: 00

Card 2/2

RATNER, Yuriy Aleksandrovich, prof.; RAFIKOV, M.M., red.; GALKINA,
V.M., tekhn. red.

[Intestinal tumors; their clinical aspects, diagnosis and treatment]
Opukholi kishchnika, diagnostika i lechenie. Kazan', Tatarskoe
knizhnoe izd-vo, 1962. 206 p. (MIRA 15:6)
(INTESTINES--TUMORS)

FAYZULLIN, Midkhat Kharisovich, prof.; RAFIKOV, M.M., red.;
KHUSHNUTDINOV, Sh.S., tekhn. red.

[X-ray diagnosis of lesions of the skull and some problems of
pneumoencephalography] Rentgenodiagnostika povrezhdenii mozgo-
vogo cherepa i nekotornye voprosy pnevmoentsefalografii. Ka-
zan', Tatarskoe knizhnoe izd-vo, 1961. 194 p. (MIRA 15:6)
(SKULL—WOUNDS AND INJURIES) (ENCEPHALOGRAPHY)
(BRAIN—WOUNDS AND INJURIES)

GIMADEYEV, Kh., nauchnyy sotrudnik; RAFIKOV, R., inzh.-mekhanik

Method for planning the expenditure of labor and materials in
agriculture. Plan. khoz. 41 no.1:51-57 Ja'64. (MIRA 17:2)

1. Bashkirskiy filial AN SSSR (for Gimadeyev).

GAYNANSHIN, I.G.; ZINATULLINA, A.M.; DANILIN, R.A.; RAFIKOV, R.A.

Stimulating the recovery of oil in the Bavly field by using
surfactants. Nefteprom. delo no.2:24-26 '64. (MIRA 17:4)

1. Neftepromyslovoye upravleniye "Bavlyneft".

POLUYAN, I.G.; ZINATULLINA, A.M.; DANILIN, R.A.; RAFIKOV, R.A.

Results of the experimental exploitation and testing of
limestone of the Tournai stage in the Bavly field. Nefteprom.
delo no.10:8-13 '63. (MIRA 17:6)

1. Neftepromyslovoye upravleniye "Bavlyneft".

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC Reaction of dienes with diazo-compounds. B. Annusov and S. RAVIKOV (J. Gen. Chem. Russ., 1937, 7, 2184-2201).—p-NO₂-C₆H₄-N₂Cl in aq. HCl and (CH₃)₂CH₂ at 0° yield NO₂-C₆H₄-N₂-NH-C₆H₄-NO₂ and α-(p-nitrobenzenediazo)butadiene, m.p. 118-119°, converted by reduction (SnCl₂ in HCl) into p- C₆H₄(NH₂)₂ and pyrrolone. The product obtained similarly with (CH₃)₂CH₂ is β-(p-nitrobenzenediazo)- Δ²-Acradiene, m.p. 172-173°, reduced to 2:5- dimethylpyrrolone. R. T.																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																			

BAFIKOV, S. R.

"On the synthesis of hexamethylenediamine." Preobrajensky, V. A., Polyakova, A. M., and Bafikov, S. R. (p. 521)

SC: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 9-10.

34

Polycondensation reactions IV. The viscosity of solutions of polyamides S. R. Rafikov and V. V. Korobin. *Bull. Acad. Sci. USSR, Div. Chem. Sci., Engl. summary*. *Solns. in acetone of the polyamides obtained by condensing $\text{NH}_2(\text{CH}_2)_n\text{NH}_2$ and $\text{HOOC}(\text{CH}_2)_m\text{COOH}$ show limiting values of concn. above which the sol goes to a gel, and variations of the viscosity no. Z calculated by Staudinger. The differences are most pronounced in the case of low-mol.-wt. polymers and are due to free NH_2 groups at the ends of the mols. These are easily solvated and cause assocn. into linear chains, thus raising the viscosity of the soln. Rise in temp. disrupts the chains and decreases the solvation; thus the viscosity is lowered.*

H. M. Leicester

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ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

Polycondensation reactions. I. Products of condensation of some dibasic acids with diamines. V. V. Korshak and S. R. Radkov, *J. Gen. Chem. (U.S.S.R.)* 14, 974-982 (1944) (English summary).—The polycondensation of ethylenediamine, hexamethylenediamine, and benzidine with sebacic and adipic acids was studied, as well as the reaction of the latter acid with tetramethylenediamine. It was shown that tetramethylenediamine and hexamethylenediamine form high polymers with both acids, while benzidine and ethylenediamine yield only low-mol. products. The phys. and chem. properties of the hexamethylenediamine-adipic acid condensate were examined. The intermediates were prepd. as follows. Castor oil (312 g.) and 273 cc. 40% NaOH were heated for 9 hrs. at 260-70° under 100 atm. pressure; the mixt. was treated with water and the aq. layer on acidification gave 70% sebacic acid, m. 130-8° (from water). Cyclohexanol (300 g.) was slowly added to 300 g. HNO₃ (d. 1.42) and 150 g. H₂SO₄ (d. 1.84), with simultaneous addn. of 125 g. concd. H₂SO₄ in the presence of 0.7 g. Cu nitrate, at 40°, to yield 85% adipic acid, m. 149-51° (from water). Adiponitrile (10.8 g.) in 200 cc. dry MeOH is poured slowly on 34 g. Na, at such a rate that the Na remains molten; this is followed by 150 cc. dry MeOH, and after completion of the reaction, the cooled soln. is treated with 30 g. NaOH and steam-distd. into dil. HCl until 1 l. distillate is obtained; the soln. is concd. to dryness to

yield 68.8% hexamethylenediamine-2HCl; mixing with 15 g. powd. KOH and immediate distn. gives 3.5 g. hexamethylenediamine, b. 190-203°, while an aq. soln. 3.5 g. may be obtained by satu. of the aq. soln. with alkali and extrn. with Et₂O; di-Ba derm., m. 184-8.5°. Adipic acid and 5% excess hexamethylenediamine in aq. EtOH give 84% hexamethylenediamine adipate, m. 190-1°; sebacate, m. 179-2.5°; sebacate, m. 180-1°. II. Condensation of hexamethylenediamine with adipic acid. S. R. Radkov and V. V. Korshak. *Ibid.* 1963-80 (English summary).—The influence of duration, temp., amt. of solvents and their nature, and the rapidity and completeness of water removal were studied in the condensation of hexamethylenediamine with adipic acid. It was shown that it is sufficient to heat the salt for 5-6 hrs. at 220-40° in an equal amt. of solvent (xylenol, cresol, or phenol). The reaction also proceeds in water as well as by heating of the salt without solvent, with the formation of low-mol. products. Both low- and high-mol. products are capable of further condensation on heating in a vacuum or in a N stream. The deq. factor for the formation of high-mol. products is the degree and completeness of water removal; the reaction is reversible at temps. over 200°, with formation of low-mol. products as a result of partial hydrolysis. III. Influence of the ratio of components on the polyamide chain growth. S. R. Radkov, V. V. Korshak, and L. N. Pinkina. *Ibid.* 1003-9.—It was shown that the presence of an excess of one of the components has an important influence on the chain length in adipic acid-hexamethylenediamine condensation; the excess, especially of the acid, affects the degree of polycondensation inversely proportionally. Heating of the polyamide, from equimol. amts. of ingredients, with free adipic or stearic acids causes acidolysis with formation of low-mol. products, which no longer change on further heating, in distinction from the original polyamide.

G. M. Kosolapoff

RAFIKOV, S.R.; GLADYSHEV, G.P.

Synthesis of polymers. Part 6: Polymerization of methyl methacrylate activated by photooxidation in the presence of sensitizers. Vysokom.soed. 4 no.9:1345-1350 S '62. (MIRA 15:11)

1. Institut khimicheskikh nauk AN KazSSR.
(Methacrylic acid) (Polymerization) (Photochemistry)

GLADYSHEV, G.P.; RAFIKOV, S.R.

Synthesis of polymers. Part 7: Photooxidative activation of oligomeric polyacrylate ester by the visible region of spectrum. Vysokom.soed. 4 no.9:1351-1353 S '62. (MIRA 15:11)

1. Institut khimicheskikh nauk AN KazSSR.
(Acrylic acid) (Polymers)
(Photochemistry)

KUDINOVA, V.S.; RAFIKOV, S.R.; SAGINTAYEVA, K.D.; SUVOROV, B.V.

Role of water vapors in the reactions of the vapor-phase
catalytic oxidation of aromatic compounds. Zhur.prikl.khim.
35 no.10:2313-2318 0 '62. (MIRA 15:12)

1. Institut khimicheskikh nauk AN Kazakhskoy SSR.
(Aromatic compounds) (Oxidation)-- (Water vapor)

RAFIKOV, S. R.

"Studies of polycondensation reactions. II. On the condensation of hexamethylenediamine with adipic acid." Rafikov, S. R. and Korshak, V. V. (p. 983)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 9-10.

RAFIKOV, S. R.

"Studies of polycondensation reactions. III. On the influence of the components ration upon the growth of the polyamide chain." Rafikov, S. R., Korshak, V. V., and Pinkina, L. N. (p. 1003)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 9-10.

10

Preparation of the dinitrile of adipic acid. V. M. Zorin, S. R. Rafikov, and B. A. Arbutov (Inst. Org. Chem., Acad. Sci., U.S.S.R.). *Bull. Acad. Sci. U.S.S.R., Class. chim.* 1945, 120 6 (in English, 127). -- The process of prepn. of adiponitrile from adipic acid, or its pure diamide, by distn. in a stream of dry NH_3 and in the presence or absence of catalysts has been studied. The use of NH_3 reduces the carbonization. About 0.5-1 mol. of adipic acid (m. 150-1°) in a Würtz flask was heated to 150-170°; dry NH_3 was passed through the flask (temp. rise to 170-80° accompanied the absorption of NH_3); at the end of the reaction, the temp. went up to 200-10°. Then the catalyst was introduced, the temp. was raised by heating, and the dinitrile distd. off at 270-310°. The oily layer of the distillate (dinitrile, bp 163-4°) was sepl. off and washed several times with a weak aq. solution of NH_3 . The aq. layer of the distillate and the washings were placed in the Würtz flask and the water distd. off. Then the residue (nitrile amide of adipic acid, m. 62-1°) was distd. again in a stream of dry NH_3 with 0.5-0.2 g. of added catalyst. This operation was repeated about 3 times. The following catalysts were used: 5% H_3PO_4 , 3% HPO_4 , 5% K_2HPO_4 , 5% NH_4 , molybdate, 3% molybdic anhydride, 3% NH_4 , vanadate, 8% phosphotungstic acid, 10% B_2O_3 . The best yield (80-4%) of adiponitrile was obtained in the presence of 3-3% H_3PO_4 . The effect of the metal of which the app. was made on the yield of adiponitrile was studied. It was found that in an Fe flask adipic acid decompd.; in an Al flask the yield of adiponitrile with 3% H_3PO_4 was 78.1%; and with 6% H_3PO_4 it was 82%; in a Cu flask the yield of adiponitrile without catalyst was 60.3% and with 3% H_3PO_4 it was 80.6%. The method of prepn. of adiponitrile in the presence of H_3PO_4 gave analogous results for sebacic acid; in glass app. with 3% H_3PO_4 the yield of sebaconitrile, bp 200-4°, was 78.8%. Phthalonitrile could not be prepd. by this method; phthalimide is formed. G. Lebedev

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

50.6

35. Synth. Res. & Alkyl
Products

Products (polyamides) of linear condensation of diamines with dicarboxylic acids. V. V. KOSCHUK and S. R. RAJIKOV (Compt. Rend. Acad. Sci.

U.S.S.R., 1945, 48, 35 8; Brit. Abs., 1946, B11, 212). Polyamides from adipic and sebacic acid, with ethylene, tetramethylene, hexamethylene, and decamethylene diamines and with benzidine have been examined. Products with the highest molecular weight were obtained with hexamethylene diamine, that with the most complete elimination of water, giving the highest degree of reaction. The initial acid/diamine ratio determines the molecular weight of the product, and is inversely proportional to the excess of acid present. Free acid fused with the polymer causes lowering of molecular weight. A prolonged reaction time does not result in increased molecular weight if excess of acid is present. Three-dimensional, insoluble, infusible products are formed by heating the polymer in air, possibly owing to cross linking.

352MEN22.14

1946

1946, 5.

USSR/Chemistry - Condensation, Chemical Poly-
Chemistry - Amides, Poly - Acidolysis and Aminolysis of

Jul/Aug 1946

"Studies of Polycondensation Reactions," V. Korshak, S. Raffikov, V. Zamiatina, Inst
Org Chem, Acad Sci USSR, Moscow, 18 pp

"Acta Physicochimica URSS" Vol XXI, No 4 - 6-723-40

Studies of polycondensation reaction between hexamethylenediamine and adipic acid, and
of diamines with dicarboxylic acids. Acidolysis and aminolysis reactions consisting
in destruction of polyamides on heating with acids or amines are described. Received
18 Oct 1945.

PA 52T2

RAFIKOV, S. R.

USSR/Chemistry - Amides, Poly
Chemistry - Synthesis

May 1947

"The Formation of Three Dimensional Structure in Polyamides," V. V. Korshak, S. R. Rafeikov, Inst Org Chem, Acad Sci, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVI, No 6

Discusses study of so-called "stitching" of macro-molecules from point of view of importance of use in technique to obtain new materials with technically valuable qualities and to improve quality of known products. Submitted by Academician A. N. Nesmeyanov, 20 Oct 1946.

PA 58TH

RAPIKOV, S. E., POPOVA, V. V., and CHEIKHOVA, G. I.

"Reaction of Glycols and Dibasic Acids," Dok. AN, 57, No. 4, 1947

ARBUZOV, B.A., redaktor; DOLGOPOLSK, B.A., redaktor; KARGIN, V.A., redaktor;
MEDVEDEV, S.S., otvetstvennyy redaktor; RAFIKOV, S.R., redaktor;
ROGOVIN, Z.A., redaktor; VASKOVICH, D.N., redaktor izdatel'stva;
SIMKINA, Ye.N., tekhnicheskiy redaktor

[Proceedings of the third conference on high molecular weight
compounds; polymerization and polycondensation] Trudy tret'ei
konferentsii po vysokomolekulyarnym soedineniyam; polimerizatsiya
i polikondensatsiya. Moskva, Izd-vo Akademii nauk SSSR, 1948.
177 p. (MLRA 10:1)

1. Konferentsiya po vysokomolekulyarnym soyedineniyam. 3d, Moscow,
1945.
(Polymerization) (Condensation products (Chemistry))

RESEARCH, S. R.

PA 33/47123

USSR/Chemistry - Condensation, Chemical Nov/Dec 48
Chemistry - Molecular Weights, Determination

"Research in the Field of High Molecular Compounds:
VIII, Distribution of Polyesters According to
Molecular Weight," S. R. Radikly, V. V. Korshak,
G. N. Chelnokova, Inst Org Chem, Acad Sci USSR,
10 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 6

Investigated reaction of polycondensation in
adipic acid with glycols. Separated polyesters
obtained into fractions, and determined their
molecular weight by chemical and viscosimetric

33/49123

USSR/Chemistry - Condensation, Nov/Dec 48
Chemical (Contd.)

Methods. Data obtained was used for consideration
of the reaction mechanism of linear polycondensa-
tion. Submitted 19 Jul 47.

33/49123

RAFIKOV, S. R.

Rafikov, S. R. - "The eminent Russian Chemist A. M. Butlerov. (For the 120th anniversary of the day of his birth)," Vestnik Akad. nauk kazkh. SSR, 1948 No. 12, p. 99-107 -- Bibliog: p. 107

So; U-3566, 15 March 53, (letopis 'Zhurnal 'nykh S'tatey, No. 13, 1949)

RAFIKOV, S.R.

✓ Mechanism of linear polycondensation. V. V. Karsbak, S. R. Rafikov, and V. A. Zamyatina (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvestiya i Otkrytiya Vysokomolekul. Soedinenii, Doklady 6-oi Kamf. Vysokomolekul. Soedineniyam, Akad. Nauk S.S.S.R.* 1949, 3-21; cf. C.A. 44, 4880a.—The events that occur in polycondensation reactions are reviewed from the kinetic point of view on the basis of reversibility of each step: initiation, chain growth, destructive processes (acidolysis, aminolysis, alcoholysis, formolysis, phenolysis), chain exchange, chain stoppage. The discussion is based on previous work largely by the authors (27 references). For cases of chem. destruction of a polycondensation product, i.e. reduction of mol. wt. of an established chain by another reagent, a formula is derived for the polymerization coeff. of a chain after such an attack: $x = 100x_0 / [(x_0 - 1)q + 100]$, where x_0 is the polymerization coeff. of initial product, x that after the destructive reaction, q is the mole percent of the active agent. G. M. Kosolapoff.

RAFIKOV,

PA 27/49T22

USSR/Chemistry - Molecular Weights,
Calculation of Average
Chemistry - Polymers, Molecular Weights of
Jan/Feb 49

"Study in the Field of Compounds of High Molecular Weight: XVII, Average Molecular Weights of Polymer Homologues," S. R. Rafikov, V. V. Korshak, G. N. Chelnokova, Inst Org Chem, Acad Sci USSR, 6 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1

Considers influence the degree of polydispersion in compounds of high molecular weight has on average molecular weight, which is determined by various chemical and physicochemical methods.

27/49T22
USSR/Chemistry - Molecular Weights;
Calculation of Average (Contd) Jan/Feb 49

Introduces method of theoretical determination of average molecular weight, correctness of which is confirmed by investigating synthetic mixtures of polyesters. Introduces concept of a coefficient of polydispersion, by which the product may be determined. Shows Graphs method of expressing the coefficient of polydispersion. Considers possibility of using this method to evaluate the mechanism of reaction. Submitted 20 Nov 47.

27/49T22

CA

2

High-molecular-weight compounds. XIX. Determination of mean molecular weight of polyesters by the end groups. G. N. Chelnokova, S. R. Rafikov, and V. V. Korshak. *Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk* 1949, 205-11; cf. *C.A.* 43, 6578b. —The mean mol. wt. values of polyesters prepd. from equimol. amts. of adipic acid and $\text{HOCH}_2\text{CH}_2\text{OH}$ detd. by carboxyl group titration check the results obtained cryoscopically or viscometrically. Mol. wts. obtained by acetylation of OH groups are substantially higher, since the low-mol.-wt. fractions remain in soln. in the procedure used: the sample in pyridine was let stand 3 days in presence of 10-fold excess of 1:1 Ac_2O -pyridine, quenched with H_2O and ice, the sepd. Ac deriv. washed with H_2O , dried and the Ac detn. made by saponification with NaOH - EtOH (3 hrs. at 100°). The divergence on samples with av. mol. wts. 1200 to 3200 was 50% or higher in many cases. Viscometric detns. used the standard Staudinger formula in C_6H_6 solns.; cryoscopic detns. were made in dioxane; CO_2H detns. were made by direct titration by 0.02 N NaOH in 60% MeOH with phenolphthalein indicator, $\text{MeOH}-\text{CHCl}_3$ solns. of the samples being used.

G. M. Kosolapoff

ENTIN, A.I., dotsent; RAFES, Yu.I.

ACTH therapy in a case of severe drug hypersensitivity. Sov.med.
20 no.5:84-85 My '56. (MIRA 9:9)

1. Iz kafedry fakul'tetskoy terapii (zav. - dotsent E.V.Khait)
sanitarno-gigiyenicheskogo fakul'teta Dnepropetrovskogo meditsin-
skogo instituta (dir. - dotsent D.P.Chukhrijenko)

(SULFANILAMIDE, injurious effects,
allergic reaction, ACTH ther. (Rus))

(ACTH, therapeutic use,
sulfanilamide allergy (Rus))

(ALLERGY, etiology and pathogenesis,
to sulfanilamide, ACTH ther. (Rus))

RAFES, Yu.I.

"Electronmicroscopy of blood corpuscles." IU.Aleksandrovich,
IU.Bliukharskii, A.Fel'tynovskii. Reviewed by IU.I.Rafes. Klin.
med. 33 no.11:93-95 N '55. (MLRA 9:7)
(ELECTRONMICROSCOPE) (BLOOD CELLS)
(ALEKSANDROWICZ, J.) (BLICHARSKI, J.)
(FELTYNOWSKI, A.)

RAFE, E.L.

Effect of external medium on excitation of atomic spectra
in arc discharge. K. N. Mochalov and E. L. Rafe. *Soviet*
Phys. Tech. Phys. 1, 487-92 (1957) (English translation).
See *C.A.* 50, 10517d. B. M. R.

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Raff, E.L.

✓8500

THE EFFECT OF ATMOSPHERE MEDIA ON THE EXTRACTION OF ATOMIC SPECTRA IN ARC DISCHARGE. K. N. Mochalov, and E. L. Raff. *Zhur. Tekh. Fiz.* 26, 505-10

(1956) Mar. (in Russian)

Previous experiments described samples of 26 metals whose spectral characteristics changed with the change of air to pure argon atmosphere. It was established that pure argon intensified the ion lines and weakened or suppressed the lines of neutral atoms. Such redistribution of intensities of electrode substance spectral lines substantiates the concept that the atmospheric media considerably affects the process of spectra excitation by the gas participation in the processes connected with discharge mechanism. The amplification of ion lines and weakening of atomic lines result from the increase of the arc temperature of argon, as the ionization potential of argon is 15.7 ev which is considerably higher than the effective air ionization potential of 12 ev. Electrons of spectra excitation are practically in thermal equilibrium with the ions. The increased temperature increases the ionization of the electrode vapors and reduces the concentration of neutral atoms. To prove the above point the air was replaced by helium media (ionization potential 24.6ev) which produced even stronger intensification of ion lines and weakening of atomic lines. Investigations were made with samples of Al, Be, V, Fe, Ca, Co, Si, Li, Mn, Mg, Cu, Ni, Ti, Cr, and Zn, in helium, argon, and air atmospheres. (R.V.J.)

Page 2
Sec

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1-Emf

Emf
227

S/058/61/000/007/039/086
A001/A101

AUTHOR: Raff, Ye.L.

TITLE: Using a-c arc burning between metallic electrodes in argon for spectral analysis

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 173, abstract 7G122
("Dokl. Mezhvuz. nauchn. konferentsii po spektroskopii i spektr. analizu". Tomsk, Tomskiy un-t, 1960, 62 - 64)

TEXT: It is noted that a marked enhancement of lines of singly ionized atoms (in relation to continuous spectrum background) is observed in the a-c arc spectrum in the argon atmosphere, as compared with the spectrum of an arc burning in air, as well as disappearance of the band spectrum of CN molecules. These specific features of the arc in argon atmosphere are used to increase the sensitivity of determining small quantities of Ti (0.02-0.35%) and V (0.10-0.40%) in steel. ↙

M. Britske

[Abstracter's note: Complete translation]

Card 1/1

USSR / General and Specialized Zoology. Insects.

P

Abs Jour: Ref Zhur-Biol., No 2, 1958, 6861.

Author : Rafes, P. M.

Inst : Not given.

Title : The Injurious Insects of the Oleaster, Calligonum and Tamarisk which Grow in the Narynskiy Sands of the Semi-desert Trans-Volga Region.

Orig Pub: Entomol. Obozreniye, 1956, 35, No 4, 805-817.

Abstract: The species composition and the biology of injurious insects found on the oleaster, calligonum and tamarisk; the observations of those insects whose harmful activities have received little attention in the literature, are given here in all details. The damages done by the most numerous and injurious species are described. (Tortricidae of oleaster, Psyllidae Trioza magnisetosa var. orientalis, oleaster moth Anarsia

Card 1/2

RAFES, P.M.

Insects injurious to forests of the Taryn sands in the trans-Volga
semidesert areas [with summary in English]. Zool.zhur. 36:
no.10:1455-1466 0 '57. (MIRA 10:11)

1. Institut lesa AN SSSR.
(Urda region--Forest insects)

USSR/Physical Chemistry - Atom. B-3

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 59

Author: Mochalov, K. M. and Raff, E. L.

Institution: None

Title: The Influence of the External Medium on the Excitation of Atomic Spectra in Gas Discharges

Original
Periodical: Zh. tekhn. fiziki, 1956, Vol 26, No 3, 505-510

Abstract: In connection with the dependence of the arc column temperature on the magnitude of the effective ionization potential of the medium filling the discharge gap as well as with the relatively small concentration of electrode substances in the arc gases, it is pointed out that the external atmosphere has a great effect on the processes which lead to the excitation of electrode spectra. Changes in the spectra of Al, Be, V, Fe, Ca, Co, Si, Li, Mg, Mn, Cu, Ni, Ti, Cr, Zn were studied when air was replaced by helium. This caused an intensification of the lines and a weakening of the atomic lines in the spectra of these

Card 1/2

USSR/Physical Chemistry - Atom, B-3

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 59

- . Abstract: elements. This indicates that when air is replaced with other gases having lower ionization potentials, a strengthening of the atomic and a weakening of the ionic lines will be observed. This supposition was confirmed by studies on the spectrum of the arc formed between an iron and a graphite electrode in an argon flush and in iodine vapor. It is indicated that the external medium has a selective effect on the volatility of the electrode substances which can totally change the relative concentration of the components of the specimen in the discharge zone.

Card 2/2

RAFES, Yu.I., kand.med.nauk (Dnepropetrovsk)

Polish physicians of the 14th to 18th centuries. Sov. zdrav. 21 no.4:
49-53 '62. (MIRA 15:5)

(POLAND—PHYSICIANS)

KLEYTMAN, Samuil Lazarevich; LAGUNOV, Lazar' Yakovlevich; GRINCHENKO, Trofim Ivanovich; RAFF, M.I., inzh., otv. red.; KURILOVA, T.M., red.; TROFIMENKO, A.S., tekhn. red.

[Traffic safety]Bezopasnost' dvizheniia avtomobilei. Khar'kov,
Izd-vo Khar'kovskogo univ., 1962. 206 p. (MIRA 16:2)
(Traffic safety)

ODINTSOV, M.G.; RAFF, Ye.L.; TRUTNEVA, Ye.P.

Luminescence bands in a d.c. arc between iron electrodes in argon. Izv. vys. ucheb. zav; fiz. no.1:14-15 '63. (MIRA 16:5)

1. Kazanskiy gosudarstvennyy meditsinskiy institut i Kazanskiy filial AN SSSR.

(Electric arc)

(Spectrum analysis)

RAFF, Ye.L.

Spectral determination of small concentrations of titanium and
vanadium in a complex chromium-nickel-molybdenum alloy. Zav.
lab. 31 no.2:184 '65. (MIRA 18:7)

1. Kazanskiy meditsinskiy institut.

RAPF, Ye. L. Cand Phys-Math Sci -- "Redistribution of the intensities of spectral lines in the radiation of an arc between metal electrodes in ^{an arc} ~~the~~ atmosphere." ~~from~~ Kazan', 1960. (Min of Higher and Specialized Secondary Education RSFSR Kazan' Order of Labor Red Banner State Univ in V. I. Ul'yanov-Lenin). (KL, 1-61, 160)

ZERDIK, Mladen, prof., dipl. inz.; RAFFAELLI, Dubravka, dipl. inz.,
asistent

Self-inflammability of oiled raw silk. Tekstil Zagreb 18
no. 1: 14-20 Ja '64.

1. Predstojnik Zavoda za tekstilnu kemijsku tehnologiju
Tehnoloskog fakulteta Sveucilista u Zagrebu (for Zerdik).
2. Zavod za tekstilnu kemijsku tehnologiju Tehnoloskog fakul-
teta Sveucilista u Zagrebu (for Raffaelli).

Laffan, L., M.D.

Treatment of severe bronchial asthma and status asthmaticus with intravenous prednisolone. Ther. Hung. 13 no.1333-35 '66.

1. Department of Allergic Diseases (Head: K. Hajos) National Institute of Rheumatology and Balneology, Budapest.

Raff, E.L.

1535.33.03
8083. PART PLAYED BY THE EXTERNAL MEDIUM IN
THE EXCITATION OF ATOMIC SPECTRA IN THE ARC DIS-
CHARGE. K.N.Mochalov and E.L.Raff.

Zh. tekhn. Fiz., Vol. 26, No. 3, 303-10 (1956). In Russian.
Atomic spectra of Al, Be, V, Fe, Ca, Co, Si, Li, Mg,
Ni, Ti, Cr and Zn were found to be weaker when the arc
was maintained in a He atmosphere than in A or air, whereas
the reverse obtained for the ionic spectra. On the other hand,
Fe spectrum, when obtained in I vapour, had stronger atomic
lines and weaker ionic lines than in air. These findings prove
once more that the part played by the medium may affect the
evaporation of the electrode substance.

F.Lachman

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2

MOCHALOV, K.N.; RAFF, E.L.; TEREININ, A.N., akademik.

Redistribution of the intensity of spectral lines of elements in discharge through argon. Dokl.AN SSSR 91 no.5:1067-1070 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Terenin). 2. Kazanskiy khimiko-tekhnologicheskiy institut im.S.M.Kirova.
(Spectrum analysis) (Electric discharges through gases) (Argon)

Redistribution of the intensities of spectral lines of elements in a discharge in argon. K. N. Michalov and B. L.

Raif (S. M. Kirov Chem-Technol. Inst., Kazan), Doklady Akad. Nauk S.S.S.R. 91, 1067-70 (1953) (Engl. translation issued as U.S. Atomic Energy Comm. N.S.F-tr-174, 4 pp. (1954)).—The at. spectra of a no. of metals are observed both in an arc in air and an arc in an atm. of A. In going from air to A, the arc spectrum lines are observed to decrease in intensity, the spark spectra lines to increase. A few observed anomalies are attributed to wrong identification as arc or spark lines in published lists. The Fe lines 2431.024, 2503.62, 2549.874, 2548.030, 2551.002, 2553.185, 2552.299, 2925.791, and 3174.96 are identified as arc lines and 2469.512, 2852.13, and 2896.96 as spark lines. The following elements were investigated: Li, Cu, Ag, Mg, Ca, Zn, Al, Ce, Si, Ti, Sn, Pb, V, Cr, Mo, W, Mn, Fe, Ni, and Pt.

K. G. Kessler

~~Башкирская~~ ~~Алексей~~ ~~Ильич~~; ~~БЕЖЕНСКИЙ~~ Александр Маркович; ШИШИН, В., ведущий
редактор; БСЯТОВ, Е., технический редактор

[Dispatcher service in automotive transportation] *dyspetchers'ka*
sluzhba na avtomobil'nomu transporti. Kyiv, Derzh. vyd-vo tekhn.
lit-ry URSS. 1957. 114 s. (MLRA 10:10)
(Transportation, automotive)

SOV/138 58 6 12/29

AUTHOR: Raff, Ye. L

TITLE: Temperature of a D.C. Arc, Burning in an Atmosphere of Argon between Metal Electrodes (Temperatura dugi postoyannogo toka mezhd metallicheskimi elektrodami goryashchey v atmosfere argona)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 6, pp 77-78 (USSR)

ABSTRACT: A re-distribution of intensities of spectral lines occurs in d.c. and a.c. arcs burning in argon at atmospheric pressure: ionic lines are strengthened and atomic lines are weakened. The author and Mozhailov (Ref 1) suggested that this is due to a rise of the plasma temperature of the arc. The present paper deals with measurements of temperature in a low-current (6A) d.c. arc burning in chemically pure argon (0.27% of nitrogen, 0.05% of oxygen) at 770 mm Hg pressure between iron and copper electrodes. Temperature was measured spectrally using ionic lines with known transition probabilities. The author used ionic lines of titanium whose transition probabilities were taken from a paper

Card 1/2

SOV/139-58-6-12/29

Temperature of a D.C. Arc, Burning in an Atmosphere of Argon
between Metal Electrodes

by R.B.King and K.B.King (Ref 8). The arc was burning in a glass tube with a quartz window and the inter-electrode distance was 3 mm. The spectrum was recorded by means of an ISP-22 spectrograph. The line intensities were measured by means of a microphotometer, MF-2. Titanium lines were due to 0.1% of titanium in the steel EI-274 used to make one of the electrodes. The other electrode was a copper rod of 6 mm diameter. The author measured intensities of 25 ionic lines of titanium and constructed a graph with coordinates with $\log (I/P) E$, where I is the line intensity, P the transition probability and E the energy of the upper level. The slope of the graph gave the absolute temperature of the arc plasma as 6100°K and 5700°K. The mean plasma temperature was taken to be 6080°K. There are 9 references of which 8 are Soviet and 1 English.

ASSOCIATION: Kazanskiy Medinstitut (Kazan Medical Institute)
SUBMITTED: 28th April 1958

Card 2/2

USSR/Physics - Gas Discharge

11 Aug 53

"Redistribution of Intensities of Spectral Lines of Elements During Discharge in Argon," K. N. Mochalov and Ye. L. Raff, Kazan Chemicotechnolog Inst im Kirov

DAN SSSR, Vol 91, No 5, pp 1067-1070

Studied spectra of metals and alloys excited in argon and compared them with spectra in air under identical conditions. Results showed that in argon spectral lines of Fe ions are enhanced while lines of neutral atoms are weakened. Such

266T104

redistribution of intensities is also observed in spectra of many other metals. Presented by Acad A. N. Terenin 17 Jun 53.

RAFF, Ye. L.

21

RA

Effect of external medium on excitation of atomic spectra in air discharge. A. N. Mochalov and Ye. L. Raff. *Zhur. Tekh. Fiz.* 26, 100-104 (1950). The observed ionization potential of at. and ionic lines of emission spectra are determined by the arc temp. The latter is directly related to the effective ionization potential of the medium in which discharge takes place. This potential, as observed by Filchikov and Goryunov (CA 45, 4181b), is not solely determined by the ionization potential of the substance(s) comprising the electrodes, but also to a great extent by the ionization potential of the surrounding medium. In the instance of mixed C-NaCl electrodes 5 mm. apart with arc temp. 5100° K., the concn. of Na vapor in the arc was only 0.5-4%. Analogous observations (CA 48, 8047f) showed an increase in intensity of ionic lines and a weakening of at. lines in the emission spectra of 20 mg. of air as a result of an increase of arc temp. after the substitution of surrounding air with A (i.e., change in ionization potential from 12 e.v. to 15.7 e.v.). In the present work the air was substituted by A and He (ionization potential 24.8 e.v.). The visual brightness and intensity of ultraviolet emission in He atm. at the same arc current were considerably less than those in the presence of A or air. Therefore, it was necessary to increase the exposure time several hundred times. The substitution of medium also caused the spectra of elements to be more similar to those of spark spectra. Specific effects are listed for Al, Be, V, Fe, Ca, Co, Si, Li, Mg, Mn, Cu, Ni, Ti, Cr, and Zn. In order to observe the expected reverse redistribution of intensities (i.e., increase in intensity of at. and decrease of ionic lines), the capillary was carried out in an atm. with ionization potential below that of air. Thus, in Fe spectrum (2320-2800 Å.) in 1 atm. (ionization potential for 1, 10.1 e.v., after dissociation to 1, 10.4 e.v.) the intensity of every ionic line (except at. lines of observed 15 guined in intensity. The two unexplained exceptions were 2046.427 Å. and 2851.706 Å. In addition, to the type of surrounding medium, the effect of chem. reactions and dissociations at 5000-6000° K., the rate of diffusion, and vapor pressure of substances affecting the overall ionization potentials are briefly discussed.

A. P. Katalov

L 30006-65 EWT(m)/EPT(n)=2/EWP(t)/EWP(b) Pad/Pu-4 IJP(c) JD/HW/JG

ACCESSION NR: AP5005475

S/0032/65/031/002/0184/0184

AUTHOR: Raff, Ye. L.

38
8

TITLE: Spectral determination of small concentrations of titanium and vanadium in a complex alloy of chromium, nickel, and molybdenum

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 184

TOPIC TAGS: spectrum analysis, titanium, vanadium, chromium alloy, nickel alloy, molybdenum alloy

ABSTRACT: A method is described by which the sensitivity of spectral analysis is increased for small concentrations of material and the signal-to-noise ratio is improved. These features are accomplished by using a low-voltage arc discharge between metallic electrodes in argon at atmospheric pressure and by using ionic lines. The method was utilized to measure concentrations of titanium from 0.02 to 0.34% and vanadium from 0.1 to 0.41% in a complex alloy of chromium, nickel, and molybdenum. Comparison measurements were also made in air. The slope of the calibration curves with excitation in argon was increased by two times.

ASSOCIATION: Kazanskiy meditsinskiy institut (Kazan Medical Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, OP

NO REF SOV: 001
Card 1/1

OTHER: 000

RAFFAI, Iren, Dr.

Fatal adrenocortical insufficiency in corticosteroid therapy of asthmatics.
Orv. hetil. 100 no.1:40-42 4 Jan 59.

1. A Szovetseg utcai Korhaz Belgyogyaszati Osztalyanak (foorvos: Hajos
Karoly dr.) kozlemenye.

(ADRENAL CORTEX HORMONES, inj. eff.

fatal adrenocortical insuff. caused by overdos., case re-
ports (Hun))

(ADRENAL CORTEX, dis.

insuff., fatal, caused by overdos. in corticosteroid ther.,
case reports (Hun))

RAFFAELLI, F.; SAKAC, K.

The results of recent explorations of Triassic high-silicious bauxites of Grgin Brijeg in Lika. Bul se Young no. 1/2: 4-5 F-Ap '63.

1. Institut za geoloska istrazivanja JRM, Zagreb.

RAFFAELLI, Petar (Zagreb)

Albite of Smilevski Dol in Selecka Mountain, Macedonia. Geol vjes
Hrv 14:133-143 '60 (publ '61).

1. Geological Institute of the People's Republic of Croatia,
Zagreb, Kupska 2.

RAFFAJ, A.

RAFFAJ, A. - New series of standard models of a factory traveling crane. II.
p. 267, Vol. 8, no. 7, July 1956
GEP - Budapest, Hungary

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4 - April 1957

SNAID, V.; BUDINSKA, E.; CERNOCH, A.; FINKOVA, A.; GAZAREK, F.; POKORNY, J.;
RAFFAJ, K.

Diagnosis and surgical treatment of insufficiency of the cervix
uteri in pregnancy. Cesk. gynek. 29 no.4:254-258 My'64

RAFFAY, Bala, vegyeszmernok (Budapest)

How to calculate the reward? Ujit lap 12 no.10:31 30 My '60.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES

13

Chemistry in the service of modern warfare. Bela Raffay. *Termosztud. Közöny* 70, 615 19(1938).--The importance of artificial fog and incendiary bombs in modern warfare and their relation to chemistry are described. S. S. de Finafy

13

ASTM SLA METALLURGICAL LITERATURE CLASSIFICATION

13

21

Determination of cresosote in brown-coal tar oils. Reasch, Fridl and Béla Raffay. Magyar Chem. Folyirat 40, 125-35 (1934). Oils rich in cresosote require more concentrated alkalis for the detn. The oils should previously be completely dehydrated. If the content in acid oils exceeds 40 vols. Ce , the original oils should be diluted with a neutralized fraction to diminish any possible errors. The content in acid oils cannot be calculated on the basis of the vol. of the cresosote Na layer but is calculated from the vol. decrease of the original oil. The detn. of contents in acid oils on the basis of the Br no. seems to be a practically available method but further expts. in this direction are required.

S. S. de Finály

COUNTRY OF ORIGIN																										PROCESSING AND PREPARATION																										ANALYSIS AND TESTING																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																												
6 CP Evaluation of war gases. Béla Raffay. Termeszettud Kozlony 70, 485-9(1938).--General discussion. S. S. de Finálv 13																																																																													
ASW-SLA METALLURGICAL LITERATURE CLASSIFICATION REGIONAL SYMBOL 010110101 010110101																																																																													

SHIRINENKO, K., polkovnik; SHTIVEL'BAND, M., polkovnik; RAFFE, Ye.,
polkovnik.

Electric case with sand. Voen.vest. 36 no.11:43-46 N '56.
(MLRA 10:2)

(Sand tables (Military science))

RAFFE, Ye., polkovnik zapasa.

Device for hoisting and reeasing parachute targets. Voen.vest.36
no.2:71-74 F '57. (MIRA 10:3)
(Target practice)

RAFFY, Adam, dr. o.v.foorvos

Vitamin E and climacterium. Orv. hetil. 95 no.44:1213-1216
31 Oct 54.

1. Budapest XIII. ker. Tanacs Kiss Jozsef utcai Rendelointezete
(igazgato: Sonkoly Odon dr.) Nogyoegyaszi Osztalyanak kozlemenye.
(VITAMIN, E, ther. use
climacteric, female)
(CLIMACTERIC, FEMALE, compl.
ther., vitamin E)

RAFIBEKOV, F.M.; VASERMAN, N.L.

Pattern making for shoe uppers and sole parts of children's sandals
manufactured with the stitchdown method. Len.prom. no.1:29-31 Ja-
Mr '63. (MIRA 16:4)

1. Eksperimental'naya fabrika Ukrainского nauchno-issledovatel'skogo
instituta kozhevennoy promyshlennosti.

RYBAL'CHENKO, O.K.; RAFIBEROV, F.M.

Improved lips of the middle pincers of the CM-2 lasting machine.

Leh.prom. no.1:45-46 Ja-Mr '63.

(MIRA 16:4)

1. Eksperimental'naya fabrika Ukrainskogo nauchno-issledovatel'skogo instituta kozhevennoy promyshlennosti.

RAFIBEKOV, S.D. (Frunze)

Work of the Kirghiz Republic Clinical Hospital. Sov.zdrav. 21
no.10:77-78 '62. (MIRA 15:10)

1. Glavnyy vrach Kirgizskoy respublikanskoy klinicheskoy
bol'nitsy, Frunze.

(KIRGHIZISTAN--MEDICINE, RURAL)

RAFIREYLI, N.M.

Effect of a porous medium on the saturation pressure. Azerb.
neft. khoz. 38 no.6:21-22 Je '59. (MIRA 12:10)
(Oil reservoir engineering)

RAFIBELI, N. M. (Baku)

"A Contribution to the Study of Hysteresis Phenomena in Gas Dissolving and Releasing Processes."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

AUTHOR: Rafibeyli, N.M. (Baku)

SOV/180-59-2-33/34

TITLE: The Influence of a Porous Medium on the Value of Saturation Pressure (O vliyanii poristoy sredy na velichinu davleniya nasyshcheniya)

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 2, pp 173-174 (USSR)

ABSTRACT: Experimental work was carried out using a modernised mercury apparatus SKB-5 on an oil bed with permeability 10, 17 and 67 Darcy and with oil of viscosity 2.5, 2.75, 4.6, and 5.14 cp., and specific weight 0.840, 0.843, 0.860, 0.862. A mercury bomb with a definite saturation pressure was used together with a porous bomb. The sand in the porous bomb is saturated with oil containing no gas. This is displaced by gassed oil when the pressure of the dissolved gas corresponds to the saturation pressure in the mercury bomb. Thus the saturation pressure in a porous medium is found. It was shown that oil is not adsorbed by sand. The following equation is given:

$$p = f(p_o, m, k, \rho_n, \rho_g, \mu_n, \mu_g)$$

Card 1/2

SOV/180-59-2-33/34

The Influence of a Porous Medium on the Value of Saturation Pressure

where p_0 = saturation pressure without a porous medium,
 m = porosity, k = permeability, ρ_n, ρ_g = density of oil
 and the gas, μ_n, μ_g viscosity of oil and gas.
 It follows from this that:

$$\frac{p}{p_0} = f \left(\beta, m, \frac{\rho_n}{\rho_g}, \frac{\mu_n}{\mu_g} \right) \quad \text{where } \beta = \frac{k \rho_n p_0}{(\mu_n)^2} \quad (1)$$

It was shown that p/p_0 is not influenced by μ_n/μ_g or ρ_n/ρ_g and that the oil viscosity is inversely proportional to the permeability. An increase in m gives an increase in p/p_0 , and an increase in k , a decrease in p/p_0 .

Card 2/2

There are 1 table and 2 references, 1 of which is Soviet and 1 English.

SUBMITTED: December 16, 1958

L 29855-66 EWT(m)/ENP(j) JAJ/RM
ACC NR: AP6013212 SOURCE CODE: UR/0421/66/000/002/0130/0132 2
AUTHOR: Ragimov, O. P. (Baku); Rafibeyli, N. M. (Baku) 2/5
ORG: none
TITLE: Determination of the dynamic saturation pressure of a mixture of isooctane and carbon dioxide in the presence of a porous medium
SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 2, 1966, 130-132
TOPIC TAGS: carbon dioxide, porosity
ABSTRACT: The experiments were conducted in a specially built unit consisting of a mercury press, a high pressure vessel with a porous medium, thick wall vessels for mercury and air, standard manometers, a device for determination of the amount of gas in solution, a magnetic differential manometer, and a thermostat. A diagram of the equipment is shown. The porous medium was quartz sandstone, previously washed and dried. The experiments were run on samples having an initial permeability of 0.1, 0.6, and 2.6 darcies. The experimental results are given in a table. These results include measurements of the dynamic saturation pressure, in the presence of a porous medium; it was found
Card 1/2

L 29855-66

ACC NR: AP6013212

to be 10-15 bar higher than the static saturation pressure, determined in the absence of a porous medium, and 5-10 bar higher than the static saturation pressure, determined in the presence of a porous medium. With an increase in the initial permeability the effect of the porous medium on the value of the saturation pressure decreases. "The author thanks A. Kh. Mirzadzhenzade for proposing the work and for his direction during its completion." Orig. art. has: 3 figures and 3 tables.

SUB CODE: 20/ SUBM DATE: 19Dec64/ ORIG REF 003

Card 2/2 *KV*

SADYKH-ZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Determination of the dynamic pressure of initial condensation in the presence of a porous medium. Izv.vys.ucheb. zav.; neft' i gaz 6 no. 12:33-34 '63. (MIRA 17:5)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po
dobyche nefti.

DURMISH'YAN, A.G. (Baku); MAMEDOV, Yu.G. (Baku); MIRZADZHANZADE, A.Kh.
(Baku); RAFIBEYLI, N.M. (Baku); SADYKH-ZADE, E.S. (Baku)

Experimental investigations of hydrodynamic and thermodynamic
properties of gas-condensate mixtures flowing in a porous medium.
Izv.AN SSSR. Mekh.i mashinostr. no.1:133-136 Ja-F '64.

(MIRA 17:4)

SADYKHZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Effect of rock gas sorption on permeability. Izv. vys. ucheb.
zav.; neft' i gaz 6 no.8:45-49 '63. (MIRA 17:6)

1. Azerbaydzhanskiy institut nefti i khimii imeni M. Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti.

RAFIBEYLI, N.M.

Effect of hysteresis on well flow. Izv. AN Azerb. SSR. Ser.
Fiz.-mat. i tekhn. nauk no.5:135-142 '59. (MIRA 13:3)
(Oil reservoir engineering)

RAFIBEYLI, N.M. (Baku)

Effect of porous media on the degree of saturation pressure.

Izv. AN SSSR. Otd. tekhn. nauk Mat. i topl. no.2:173-174 Mr-Apr
'59. (MIRA 12:6)

(Oil reservoir engineering)

DURMISH'YAN, A.G.; MAMEDOV, Yu.G.; MIRZADZHANZADE, A.Kh.; KAFIBEYLI, N.M.;
SADYKH-ZADE, E.S.

Experimental investigations of the hydrodynamic and thermodynamic properties of gas-condensate mixtures during seepage in a porous medium. Dokl. AN Azerb. SSR 20 no.8:31-35 '64.
(MIRA 17:12)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy neftyanoy institut.

RAFIKI, M.I.

General electrographic investigation of anaphylactic shock. Uch.zap.
Len.un.no.176:203-217 '54. (MLRA 9:9)
(ANAPHYLAXIS) (ELECTROPHYSIOLOGY) (SHOCK)

RAFIKI, M.I.

Dynamics of changes in the electrocardiogram during the development of anaphylactic shock. Uch.zap.Len.un. no.164:136-150 '54.

(MLRA 10:3)

(ANAPHYLAXIS) (ELECTROCARDIOGRAPHY) (SHOCK)

RAFIKI, M. I (Dobert)

600

USSR (600)

Physiologists: Vvedenskiy, Nikolay Yevgen'yevich, 1825-1922

"Nikolay Yevgen'yevich Vvedinskiy; 100th Anniversary of Birth"
Fel'd. 1 akush. No4, 1952

SO: Monthly List of Russian Accessions, Library of Congress, August 1952, UNCL

Rafikov, A. Kh.

USSR/ Miscellaneous - Conferences

Card 1/1 Pub. 124 - 36/39

Authors : Rafikov, A. Kh.

Title : Scientific and cultural relations with countries of the foreign East

Periodical : Vest. AN SSSR 26/2, 136-138, Feb 1956

Abstract : Minutes are presented from the conference held at the Library of the Acad. of Sc., USSR where the scientific and cultural relations between the USSR and countries of the foreign East (India, Burma, Pakistan, Japan, Lebanon, etc.) were discussed.

Institution :

Submitted :

KHAYDAROV, A.Kh. prof., HAFIKOV A.H.

Importance of sedimentation cystography in the diagnosis
of tumors of the urinary bladder. Nauch. trudy SamMI
22:112-114 '69. (MIRA 17:9)

1. In gosпитal'noy khirurgicheskoy klinike Samarkandskogo
meditsinskogo instituta.

RAFIKOV, Ch.F.

Glove leather made of colt skins. Leg. prom. 18 no.3:55 Mr '58.
(Leather) (MIRA 11:4)

RAFIKOV Ch.F.

RAFIKOV Ch.F., inzh.

Effect of liming and fleshing conditions on the quality of imitation
kidskin made of fat, steppe-grown sheepskins. Leg.prom. 16 no.10:31-33
0 '56. (MIRA 10:12)

(Tanning)

5/1/90
15.8.100

U.S.S.R.

S/190/62/004/004/006/019
B119/B138

AUTHORS: Stepukhovich, A. D., Bortnichuk, A. L., Rafikov, E. A.

TITLE: Effect of colloidal gold and thallium on the kinetics and mechanism of initial polymerization of styrene in block and in solution. I

ABSTRACT: *Vysokomolekulyarnyye soyedineniya*, v. 4, no. 4, 1962, 516-522

TEXT: Styrene was polymerized (boiling point 75.5°C) in block and in toluene solution in the presence of colloidal gold at 60, 80, and 95°C.

The Au content was varied between $0.37 \cdot 10^{-4}$ and $11.84 \cdot 10^{-4}$ gram-atoms/liter. The rate of polymerization was determined from the time variations in specific viscosity. Results: In very small amounts Au acts as initiator, and in larger amounts, as inhibitor, of block polymerization. The Au-content/reaction-rate curve has a maximum which shifts to lower Au content with increasing temperature. In the range of inhibiting Au concentrations the curve obeys the Stepukhovich equation

$\frac{1}{W_p - W_{p0}} = A + Bc_{inh}$; W_p = polymerization rate appropriate for the case 1/2

X

Effect of colloidal gold and thallium ... 3/196/62/004/004/006/019
B119/B136

concentration c_{inh} of inhibitor, W_1 = residual rate). No limiting inhibition value was observed with respect to Au concentration. Because of its low solubility experiments with Tl were made with minimum amounts (it was added as $Tl(NO_3)_3$ or oxidized filings), and had qualitative character only. Tl inhibited the polymerization of styrene. There are 3 figures and 2 tables.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: March 9, 1961

Carl M/A

STEPUKHOVICH, A.D.; MALANIN, V.A.; RAFIKOV, E.A.

Effect of colloidal cadmium and zinc on the kinetics and mechanism
of the initial stage of block polymerization of methyl methacrylate.
Vysokom. soed. 6 no.4:695-698 Ap '64. (MIRA 17:6)

1. Saratovskiy gosudarstvennyy universitet imeni N.G.
Chernyshevskogo.

06291

S/190/62/004/004/001/019
B119/3138

S. 1140
18.8.62

AUTHORS: Stepanukhovich, A. D., Bortnichuk, A. L., Rafikov, E. A.

TITLE: Effect of colloidal gold and thallium on kinetics and mechanism of initial polymerization of styrene in block and in solution. II

ABSTRACT: *Vysokomolekulyarnyye soyedineniya*, v. 4, no. 4, 1962, 523-527

TEXT: This is a quantitative evaluation of the experimental results obtained in the previous paper (*Vysokomolek. soyed.*, 4, 516, 1962). The initiating effect of minimum amounts of colloidal gold in styrene block polymerization is explained by the reaction: styrene peroxide + Au → Au⁺ + active radicals. This also explains the drop in the height of the maximum on the Au concentration/polymerization rate curve when the reaction temperature is raised. The activation energy for the inhibition of chain growth by colloidal gold particles is calculated from the temperature dependence of the coefficients A and B (in the equation $\frac{1}{W_p - W_{p0}} = A + Bc_{inh}$; W_p = polymerization rate appropriate

Card 1/2

Effect of colloidal gold and thallium ... 3/190/62/004/004/007/019
B119/B138

For the concentration c_{inh} of inhibitor, W_{∞} = residual rate). The activation energy is around, -14 to -17 kcal/mole, and varies with the degree of polymerization. The inhibition is probably due to a trimolecular reaction in which the excess recombination energy of two radicals is released to a colloidal Au particle. There are 1 figure and 1 table.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: March 9, 1961

Card 2/1

S/190/62/004/002/003/021
B110/B101

AUTHORS: Stepukhovich, A. D., Rafikov, E. A., Bortnickuk, A. L.
TITLE: Effect of colloidal platinum on kinetics and mechanism of initial block polymerization of styrene. II
PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 182 - 187

TEXT: To clarify the effect of Pt on the initial rate of styrene polymerization (Ref. 1: Vysokomolek. soyed., 4, 85, 1962) the authors tried to generalize the quantitative theory of the braking effect of inhibitors (A. D. Stepukhovich, Dokl. AN SSSR, 89, 889, 1953). A start is made from the empirical equation $1/(W_p - W_\infty) = A + Bc_{inh}$ (1). Neglecting the initiation rate of radicals as compared with the reaction rate of chain growth, $W_p = k_g[M][R]$; $2k_{in}[M] = k_v[R] + k_w[R] + k_{inh}c_{inh}$ (2)

is obtained for $d[R]/dt = 0$, where $[R]$ = total concentration of polymer radicals in steady state; k_{in} , k_g , k_v , k_w , k_{inh} = rate constants of
Card 1/4

Effect of colloidal platinum ...

S/190/62/004/002/003/021
B110/B101

initiation, growth, and chain termination in the volume, on the walls and inhibitor particles, respectively, and $[M]$ = monomer concentration. This gives: $1/(W_p - W_\infty) = k_w/2k_{in}k_g[M]^2 + (k_{inh}/2k_{in}k_g[M]^2) \cdot c_{inh}$ (6).

The coefficients A and B are: $A = k_w/2k_{in}k_g[M]^2$; $B = k_{inh}/2k_{in}k_g[M]^2$ (7). ✓

As the polymerization degree increases, Eq. (6) becomes: $1/(W_p - W_\infty) = Bc_{inh}$. For $c_{inh} = 0$, (1) becomes: $A \approx 1/k_g[M][R]$ (9). The steady condition for $c_{inh} = 0$ is: $2k_{in}[M] = k_o[R]^2$. After solution with respect to $[R]$ and substitution into Eq. (9): $A = k_o^{1/2} / (\sqrt{2}k_{in}^{1/2} k_g[M]^{3/2})$ (10).

The ratio of B coefficients for the temperatures T_1 and T_2 is:

$$B_1/B_2 = [(k_{inh})_1 \cdot (k_{in}k_g)_2] / [(k_{inh})_2 \cdot (k_{in}k_g)_1] \quad (11). \quad E_{inh} = (E_{in} + E_g)$$

- $[RT_1T_2 \cdot \ln(B_1/B_2)] / (T_2 - T_1)$ (13) is calculated from the experimental

value for B_1/B_2 . $(k_{inh})_1 / (k_{inh})_2 = [(k_w(B/A))_{T_1}] / [(k_w(B/A))_{T_2}]$ (15). The

capture energy of radicals by the walls is:

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Effect of colloidal platinum...

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B110/B101

$E_w = (E_{in} + E_g) - [RT_1T_2 \ln(A_1/A_2)] / (T_2 - T_1)$ (16), where for styrene:

$E_{in} = 29.6$ kcal/mole; $E_g = 7.25$ kcal/mole. Eqs. (13) and (16) hold at 80 and 95°C for 60 min polymerization. Radical recombination prevails in the volume in this case. Since the value of E_{inh} (800 cal/mole) extra-

polated for the zero polymerization degree is less than the activation energy E_o (1500 cal/mole) of the recombination of polymer radicals of

styrene, the inhibition reaction is faster than the recombination. The ratio of the coefficients A at 80 and 95°C is constant with 5.55 for polymerization up to 60 min, and decreases to 3 with increasing polymerization degree. According to Eq. (16): $E_w = 7250$ cal/mole, which corresponds to

E_g . According to Eq. (7): $A_1/A_2 = (k_w/k_{in}k_g)_{T_1} \cdot (k_w/k_{in}k_g)_{T_2}$ (17).

Since $E_w = E_g$, $k_w \approx k_g$, and (17) gives: $A_1/A_2 \approx \exp[(E_{in}/R) \cdot (1/T_1 - 1/T_2)]$ (18).

A transition of the initially bimolecular inhibition of styrene polymerization to a trimolecular mechanism is assumed. The change of the negative activation energy with increasing polymerization degree is probably due to

Card 3/4

Effect of colloidal platinum...

S/190/62/004/002/003/021
B110/B101

a gradual valence increase until coordination complexes of Pt are formed. The positive activation energy with zero polymerization degree is probably due to the bimolecular character of the reaction because of low radical concentration and pure surface of colloid particles. There are 1 figure and 4 Soviet references. ✓

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: February 1, 1961

Card 4/4

L 20783-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 AEDC(a)/ASD(m)-3/AFETR
ACCESSION NR: AP5003797 RM 8/0190/64/006/008/1359/1365

AUTHOR: Rafikov, E. A.; Alekseyeva, S. G.

TITLE: Comparative study of the kinetics of the thermal block polymerization of styrene by viscosimetric and dilatometric methods

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 8, 1964, 1359-1365

TOPIC TAGS: polystyrene, polymerization, chemical kinetics

ABSTRACT: A comparative study was made of the thermal block polymerization of styrene by viscosimetric and dilatometric measurements, in an effort to determine the limits of applicability of the viscosimetric method. The question of the variation of the intrinsic viscosity with the course of polymerization was subjected to a quantitative analysis by solving a differential equation considering the change in η_{sp}/c with time, proposed on the basis of the Haggins equation. The results of the calculation were found to be in satisfactory agreement with the experimental data. It was shown that under conditions of increasing molecular weight with degree of

Card 1/2

L 20783-65

ACCESSION NR: AP5003797

polymerization, the viscosimetric method of determining the rate is not absolute.
Orig. art.has: 6 graphs, 8 formulas.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo
(Saratov State University)

SUBMITTED: 09Jul63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 005

OTHER: 005

JPRS

Card 2/2

KHAIDAROV, A.Kh., dotsent; RAFIKOV, G.Kh.

Case of echinococcus of the prostate gland. Med.zhur. Uzb. no.11:
70 N '60. (MIRA 14:5)

1. Iz gosptal'noy khirurgicheskoy kliniki Samarkandskogo gosudar-
stvennogo meditsinskogo instituta imeni I.P.Pavlova.
(PROSTATE GLAND—HYDATIDS)

AKHMETZYANOV, Yunus Akhmetzyanovich; PETINA, L.V., red.; SOKOLOVA,
A.V., red.; RAFIKOV, M., red.; VLADIMIRTSEV, V., red.;
TROFIKOVA, A., tekhn. red.

[Tatar cookery]Tatarskie bliuda. Kazan', Tatarskoe knizhnoe
izd-vo, 1961. 127 p. (MIRA 15:12)

1. Chlen Tsentral'nogo kulinarnogo soveta pri Ministerstve
torgovli RSFSR (for Akhmetzyanov).
(Cookery, Tatar)

BADIR'YAN, G.G., prof.; VASIL'YEV, N.V., prof.; KOTOV, G.G., prof.;
RUDAKOVA, Ye.A., prof.; BRAGINSKIY, B.I., doktor ekon.nauk;
GUMENOV, M.N., dots.; ROMANCHENKO, A.V., doktor ekon. nauk;
ABRAMOV, V.A., dots.; ALTAYSKIY, I.P., kand. ekon. nauk;
GAVRILOV, V.I., dots.; RAFIKOV, M.M., kand. ekon. nauk;
VINCKUR, R.D., dots.; RUSAKOV, G.K., dots.; LAVRENT'YEV,
V.N., dots.; GORELIK, L.Ya., red.; PONOMAREVA, A.A., tekhn.
red

[Economics, organization and planning of agricultural produc-
tion] Ekonomika, organizatsiya i planirovanie sel'skokho-
ziaistvennogo proizvodstva Moskva, Ekonomizdat, 1963. 607 p.
(MIRA 16:41)

(Agriculture--Economic aspects)

L 31312-55 EPA(s)-2/ENT(m)/EPF(c)/EPR/ENP(j)/T Pc-L/Pr-L/Ps-L/Pt-10 Wn/RM
 ACCESSION NR: AR5003887 S/0081/64/000/018/S063/S063

SOURCE: Ref. zh. Khimiya, Abs. 18S344

AUTHOR: Rafikov, M. N.; Razinskaya, I. N.; Popova, Z. V.; Shtarkman, B. P.

TITLE: Evaluation of thermal stability of polyvinylchloride from the standpoint of its processing

CITED SOURCE: Tr. po khimii i khim. tekhnol. Gor'kiy, vyp. 2(8), 1963, 303-308

TOPIC TAGS: polyvinylchloride, thermal stability, solubility, latex/ igelit F latex

TRANSLATION: A method has been developed for evaluation of the stability of polyvinylchloride (PVC) and for evaluation of different stabilizers with respect to their ability to prevent crystallization. "PF-special" PVC and "igelit F" latex were studied. Among stabilizers and HCl acceptors which were investigated were Pb stearate (I) and Ca' stearate (II) and PVC decomposition retarders were 2, 4, 6-trihydroxybenzophenone (III), 2, 2', 4, 4'-tetrahydroxysebacophenone (IV), 2, 2', 4, 4' - tetrahydroxydiphenylacane (V) and others. For evaluating the results, the following indexes were used: decrease in solubility of PVC after processing and

Card 1/2

L 31312-65

ACCESSION NR: AR5003887

change in the viscosity of its melt upon heating. It was established that both methods give the same results and PVC becomes insoluble after 50 min of thermal treatment. It was shown that the ability of the stabilizer to retard the thermal dehydrochlorination of PVC does not always coincide with the ability to prevent crystallization. For instance I and II accelerate crystallization while IV retards the rate of cross polymerization. III and V retard both processes.
L. Kotlyarevskaya.

SUB CODE: OC, TD

ENCL: 00

Card 2/2

RATNER, Yuriy Aleksandrovich, prof.; RAFIKOV, M.M., red.; GALKINA,
V.M., tekhn. red.

[Intestinal tumors; their clinical aspects, diagnosis and treatment]
Opukholi kishchnika, diagnostika i lechenie. Kazan', Tatarskoe
knizhnoe izd-vo, 1962. 206 p. (MIRA 15:6)
(INTESTINES--TUMORS)

FAYZULLIN, Midkhat Kharisovich, prof.; RAFIKOV, M.M., red.;
KHUSHNUTDINOV, Sh.S., tekhn. red.

[X-ray diagnosis of lesions of the skull and some problems of
pneumoencephalography] Rentgenodiagnostika povrezhdenii mozgo-
vogo cherepa i nekotornye voprosy pnevmoentsefalografii. Ka-
zan', Tatarskoe knizhnoe izd-vo, 1961. 194 p. (MIRA 15:6)
(SKULL—WOUNDS AND INJURIES) (ENCEPHALOGRAPHY)
(BRAIN—WOUNDS AND INJURIES)

GIMADEYEV, Kh., nauchnyy sotrudnik; RAFIKOV, R., inzh.-mekhanik

Method for planning the expenditure of labor and materials in
agriculture. Plan. khoz. 41 no.1:51-57 Ja'64. (MIRA 17:2)

1. Bashkirskiy filial AN SSSR (for Gimadeyev).

GAYNANSHIN, I.G.; ZINATULLINA, A.M.; DANILIN, R.A.; RAFIKOV, R.A.

Stimulating the recovery of oil in the Bavly field by using
surfactants. Nefteprom. delo no.2:24-26 '64. (MIRA 17:4)

1. Neftepromyslovoye upravleniye "Bavlyneft".

POLUYAN, I.G.; ZINATULLINA, A.M.; DANILIN, R.A.; RAFIKOV, R.A.

Results of the experimental exploitation and testing of
limestone of the Tournai stage in the Bavly field. Nefteprom.
delo no.10:8-13 '63. (MIRA 17:6)

1. Neftepromyslovoye upravleniye "Bavlyneft".

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC Reaction of dienes with diazo-compounds. B. Annusov and S. RAVIKOV (J. Gen. Chem. Russ., 1937, 7, 2184-2201).—p-NO₂-C₆H₄-N₂Cl in aq. HCl and (CH₃CH)₂ at 0° yield NO₂-C₆H₄-N₂-NH-C₆H₄-NO₂ and α-(p-nitrobenzenediazo)butadiene, m.p. 118-119°, converted by reduction (SnCl₂ in HCl) into p-C₆H₄(NH₂)₂ and pyrroline. The product obtained similarly with (CHMeCH)₂ is β-(p-nitrobenzenediazo)-Δ²-Acradiene, m.p. 172-173°, reduced to 2:5-dimethylpyrroline. R. T.																			
ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION																			

BAFIKOV, S. R.

"On the synthesis of hexamethylenediamine." Preobrajensky, V. A., Polyakova, A. M., and Bafikov, S. R. (p. 521)

SC: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 9-10.

34

31

Polycondensation reactions IV. The viscosity of solutions of polyamides. S. R. Ratikov and V. V. Korshak. *Dokl. akad. sci. USSR*, *Chem. ser. chim.*, 1944, 132, 9. (English summary). Solns. in *m-cresol* of the polyamides obtained by condensing $\text{NH}_2(\text{CH}_2)_n\text{NH}_2$ and $\text{HO}_2\text{C}(\text{CH}_2)_m\text{CO}_2\text{H}$ show limiting values of concn. above which the sol goes to a gel, and variations of the viscosity η_{sp}/C from linearity, which are not in accord with the values calculated by Staudinger. The differences are most pronounced in the case of low-mol.-wt. polymers and are due to free NH_2 groups at the ends of the mole. These are easily solvated and cause assocn. into linear chains, thus raising the viscosity of the soln. Rise in temp. disrupts the chains and decreases the solvation; thus the viscosity is lowered.

H. M. Leicester

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP 1

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Polycondensation reactions. I. Products of condensation of some dibasic acids with diamines. V. V. Korshak and S. R. Radkov, *J. Gen. Chem. (U.S.S.R.)* 14, 974-982 (1944) (English summary).—The polycondensation of ethylenediamine, hexamethylenediamine, and benzidine with sebacic and adipic acids was studied, as well as the reaction of the latter acid with tetramethylenediamine. It was shown that tetramethylenediamine and hexamethylenediamine form high polymers with both acids, while benzidine and ethylenediamine yield only low-mol. products. The phys. and chem. properties of the hexamethylenediamine-adipic acid condensate were examined. The intermediates were prepd. as follows. Castor oil (312 g.) and 273 cc. 40% NaOH were heated for 9 hrs. at 260-70° under 100 atm. pressure; the mixt. was treated with water and the aq. layer on acidification gave 70% sebacic acid, m. 130-8° (from water). Cyclohexanol (300 g.) was slowly added to 300 g. HNO₃ (d. 1.42) and 150 g. H₂SO₄ (d. 1.84), with simultaneous addn. of 125 g. concd. H₂SO₄ in the presence of 0.7 g. Cu nitrate, at 40°, to yield 85% adipic acid, m. 149-51° (from water). Adiponitrile (10.8 g.) in 200 cc. dry MeOH is poured slowly on 34 g. Na, at such a rate that the Na remains molten; this is followed by 150 cc. dry MeOH, and after completion of the reaction, the cooled soln. is treated with 30 g. NaOH and steam-distd. into dil. HCl until 1 l. distillate is obtained; the soln. is concd. to dryness to

yield 68.8% hexamethylenediamine-2HCl; mixing with 15 g. powd. KOH and immediate distn. gives 3.5 g. hexamethylenediamine, b. 190-203°, while an aq. soln. 3.5 g. may be obtained by satn. of the aq. soln. with alkali and extrn. with Et₂O; di-Ba derm., m. 184-8.5°. Adipic acid and 5% excess hexamethylenediamine in aq. EtOH give 84% hexamethylenediamine adipate, m. 190-1°; sebacate, m. 179-2.5°; sebacate, m. 180-1°. II. Condensation of hexamethylenediamine with adipic acid. S. R. Radkov and V. V. Korshak. *Ibid.* 1963-80 (English summary).—The influence of duration, temp., amt. of solvents and their nature, and the rapidity and completeness of water removal were studied in the condensation of hexamethylenediamine with adipic acid. It was shown that it is sufficient to heat the salt for 5-6 hrs. at 220-40° in an equal amt. of solvent (xylenol, cresol, or phenol). The reaction also proceeds in water as well as by heating of the salt without solvent, with the formation of low-mol. products. Both low- and high-mol. products are capable of further condensation on heating in a vacuum or in a N stream. The deq. factor for the formation of high-mol. products is the degree and completeness of water removal; the reaction is reversible at temps. over 200°, with formation of low-mol. products as a result of partial hydrolysis. III. Influence of the ratio of components on the polyamide chain growth. S. R. Radkov, V. V. Korshak, and L. N. Pinkina. *Ibid.* 1003-9.—It was shown that the presence of an excess of one of the components has an important influence on the chain length in adipic acid-hexamethylenediamine condensation; the excess, especially of the acid, affects the degree of polycondensation inversely proportionally. Heating of the polyamide, from equimol. amts. of ingredients, with free adipic or stearic acids causes acidolysis with formation of low-mol. products, which no longer change on further heating, in distinction from the original polyamide. G. M. Kosolapoff

RAFIKOV, S.R.; GLADYSHEV, G.P.

Synthesis of polymers. Part 6: Polymerization of methyl methacrylate activated by photooxidation in the presence of sensitizers. Vysokom.soed. 4 no.9:1345-1350 S '62. (MIRA 15:11)

1. Institut khimicheskikh nauk AN KazSSR.
(Methacrylic acid) (Polymerization) (Photochemistry)

GLADYSHEV, G.P.; RAFIKOV, S.R.

Synthesis of polymers. Part 7: Photooxidative activation of oligomeric polyacrylate ester by the visible region of spectrum. Vysokom.soed. 4 no.9:1351-1353 S '62. (MIRA 15:11)

1. Institut khimicheskikh nauk AN KazSSR.
(Acrylic acid) (Polymers)
(Photochemistry)

KUDINOVA, V.S.; RAFIKOV, S.R.; SAGINTAYEVA, K.D.; SUVOROV, B.V.

Role of water vapors in the reactions of the vapor-phase
catalytic oxidation of aromatic compounds. Zhur.prikl.khim.
35 no.10:2313-2318 0 '62. (MIRA 15:12)

1. Institut khimicheskikh nauk AN Kazakhskoy SSR.
(Aromatic compounds) (Oxidation)-- (Water vapor)

RAFIKOV, S. R.

"Studies of polycondensation reactions. II. On the condensation of hexamethylenediamine with adipic acid." Rafikov, S. R. and Korshak, V. V. (p. 983)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 9-10.

RAFIKOV, S. R.

"Studies of polycondensation reactions. III. On the influence of the components ration upon the growth of the polyamide chain." Rafikov, S. R., Korshak, V. V., and Pinkina, L. N. (p. 1003)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 9-10.

1ST AND 2ND COLUMNS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH COLUMNS

Preparation of the dinitrile of adipic acid. V. M. Zorina, S. R. Rafikov, and B. A. Arbutov (Inst. Org. Chem., Acad. Sci. U.S.S.R.). *Bull. Acad. Sci. U.S.S.R., Chem. ser. chim.* 1945, 129 6 in English, 127. -- The process of prepn. of adiponitrile from adipic acid, or its pure diamide, by distn. in a stream of dry NH_3 and in the presence or absence of catalysts has been studied. The use of NH_3 reduces the carbonization. About 0.5-1 mol. of adipic acid (m. 150-1°) in a Würtz flask was heated to 150-5°; dry NH_3 was passed through the flask (temp. rise to 170-80° accompanied the absorption of NH_3); at the end of the reaction, the temp. went up to 200-10°. Then the catalyst was introduced, the temp. was raised by

heating, and the dinitrile distd. off at 270-310°. The only layer of the distillate (dinitrile, bp 163-4°) was sepd. off and washed several times with a weak aq. solution of NH_3 . The aq. layer of the distillate and the washings were placed in the Würtz flask and the water distd. off. Then the residue (nitrile amide of adipic acid, m. 62-1°) was distd. again in a stream of dry NH_3 with 0.5-0.2 g. of added catalyst. This operation was repeated about 3 times. The following catalysts were used: 5% H_3PO_4 , 3% H_2PO_4 , 5% K_3PO_4 , 5% K_2HPO_4 , 5% NH_4 molybdate, 3% molybdic anhydride, 3% NH_4 vanadate, 5% phosphotungstic acid, 10% B_2O_3 . The best yield (80-4%) of adiponitrile was obtained in the presence of 2-3% H_3PO_4 . The effect of the metal of which the app. was made on the yield of adiponitrile was studied. It was found that in an Fe flask adipic acid decompd.; in an Al flask the yield of adiponitrile with 3% H_3PO_4 was 78.1%; and with 6% H_3PO_4 it was 82%; in a Cu flask the yield of adiponitrile without catalyst was 60.3% and with 3% H_3PO_4 it was 80.6%. The method of prepn. of adiponitrile in the presence of H_3PO_4 gave analogous results for sebacic acid: in glass app. with 3% H_3PO_4 the yield of sebaconitrile, bp 200-4°, was 78.8%. Phthalonitrile could not be prepd. by this method; phthalimide is formed. G. Lebedev

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND COLUMNS												3RD AND 4TH COLUMNS											
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z												A B C D E F G H I J K L M N O P Q R S T U V W X Y Z											

5TH AND 6TH COLUMNS

7TH AND 8TH COLUMNS

9TH AND 10TH COLUMNS

50.6

35. Synth. Res. & Alloys
Products

Products (polyamides) of linear condensation of diamines with dicarboxylic acids. V. V. KOSCHUK and S. R. RAJIKOV (Compt. Rend. Acad. Sci.

U.S.S.R., 1945, 48, 35 8; Brit. Abs., 1946, B11, 212). Polyamides from adipic and sebacic acid, with ethylene, tetramethylene, hexamethylene, and decamethylene diamines and with benzidine have been examined. Products with the highest molecular weight were obtained with hexamethylene diamine, that with the most complete elimination of water, giving the highest degree of reaction. The initial acid/diamine ratio determines the molecular weight of the product, and is inversely proportional to the excess of acid present. Free acid fused with the polymer causes lowering of molecular weight. A prolonged reaction time does not result in increased molecular weight if excess of acid is present. Three-dimensional, insoluble, infusible products are formed by heating the polymer in air, possibly owing to cross linking.

352MEN22.14

1946

1946, 5.

USSR/Chemistry - Condensation, Chemical Poly-
Chemistry - Amides, Poly - Acidolysis and Aminolysis of

Jul/Aug 1946

"Studies of Polycondensation Reactions," V. Korshak, S. Raffikov, V. Zamiatina, Inst
Org Chem, Acad Sci USSR, Moscow, 18 pp

"Acta Physicochimica URSS" Vol XXI, No 4 - 6-723-40

Studies of polycondensation reaction between hexamethylenediamine and adipic acid, and
of diamines with dicarboxylic acids. Acidolysis and aminolysis reactions consisting
in destruction of polyamides on heating with acids or amines are described. Received
18 Oct 1945.

PA 52T2

RAFIKOV, S. R.

USSR/Chemistry - Amides, Poly
Chemistry - Synthesis

May 1947

"The Formation of Three Dimensional Structure in Polyamides," V. V. Korshak, S. R. Rafeikov, Inst Org Chem, Acad Sci, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVI, No 6

Discusses study of so-called "stitching" of macro-molecules from point of view of importance of use in technique to obtain new materials with technically valuable qualities and to improve quality of known products. Submitted by Academician A. N. Nesmeyanov, 20 Oct 1946.

PA 58TH

RAPIKOV, S. E., POPOVA, V. V., and CHEIKHOVA, G. I.

"Reaction of Glycols and Dibasic Acids," Dok. AN, 57, No. 4, 1947

ARBUZOV, B.A., redaktor; DOLGOPOLSK, B.A., redaktor; KARGIN, V.A., redaktor;
MEDVEDEV, S.S., otvetstvennyy redaktor; RAFIKOV, S.R., redaktor;
ROGOVIN, Z.A., redaktor; VASKEVICH, D.N., redaktor izdatel'stva;
SIMKINA, Ye.N., tekhnicheskiy redaktor

[Proceedings of the third conference on high molecular weight
compounds; polymerization and polycondensation] Trudy tret'ei
konferentsii po vysokomolekulyarnym soedineniyam; polimerizatsiya
i polikondensatsiya. Moskva, Izd-vo Akademii nauk SSSR, 1948.
177 p. (MLRA 10:1)

1. Konferentsiya po vysokomolekulyarnym soyedineniyam. 3d, Moscow,
1945.
(Polymerization) (Condensation products (Chemistry))

RESEARCH, S. R.

PA 33/47123

USSR/Chemistry - Condensation, Chemical Nov/Dec 48
Chemistry - Molecular Weights, Determination

"Research in the Field of High Molecular Compounds:
VIII, Distribution of Polyesters According to
Molecular Weight," S. R. Rafikly, V. V. Korshak,
G. N. Chelnokova, Inst Org Chem, Acad Sci USSR,
10 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 6

Investigated reaction of polycondensation in
adipic acid with glycols. Separated polyesters
obtained into fractions, and determined their
molecular weight by chemical and viscosimetric

33/49123

USSR/Chemistry - Condensation, Nov/Dec 48
Chemical (Contd.)

Methods. Data obtained was used for consideration
of the reaction mechanism of linear polycondensa-
tion. Submitted 19 Jul 47.

33/49123

RAFIKOV, S. R.

Rafikov, S. R. - "The eminent Russian Chemist A. M. Butlerov. (For the 120th anniversary of the day of his birth)," Vestnik Akad. nauk kazkh. SSR, 1948 No. 12, p. 99-107 -- Bibliog: p. 107

So; U-3566, 15 March 53, (letopis 'Zhurnal 'nykh S'tatey, No. 13, 1949)

RAFIKOV, S.R.

✓ Mechanism of linear polycondensation. V. V. Karsbak, S. R. Rafikov, and V. A. Zamyatina (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvestiya i Otkrytiya Vysokomolekul. Soedinenii, Doklady 6-oi Kamf. Vysokomolekul. Soedineniyam, Akad. Nauk S.S.S.R.* 1949, 3-21; cf. C.A. 44, 4880a.—The events that occur in polycondensation reactions are reviewed from the kinetic point of view on the basis of reversibility of each step: initiation, chain growth, destructive processes (acidolysis, aminolysis, alcoholysis, formolysis, phenolysis), chain exchange, chain stoppage. The discussion is based on previous work largely by the authors (27 references). For cases of chem. destruction of a polycondensation product, i.e. reduction of mol. wt. of an established chain by another reagent, a formula is derived for the polymerization coeff. of a chain after such an attack: $x = 100x_0 / [(x_0 - 1)q + 100]$, where x_0 is the polymerization coeff. of initial product, x that after the destructive reaction, q is the mole percent of the active agent. G. M. Kosolapoff.

RAFIKOV,

PA 27/49T22

USSR/Chemistry - Molecular Weights,
Calculation of Average
Chemistry - Polymers, Molecular Weights of
Jan/Feb 49

"Study in the Field of Compounds of High Molecular Weight: XVII, Average Molecular Weights of Polymer Homologues," S. R. Rafikov, V. V. Korshak, G. N. Chelnokova, Inst Org Chem, Acad Sci USSR, 6 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1

Considers influence the degree of polydispersion in compounds of high molecular weight has on average molecular weight, which is determined by various chemical and physicochemical methods.

27/49T22
USSR/Chemistry - Molecular Weights;
Calculation of Average (Contd) Jan/Feb 49

Introduces method of theoretical determination of average molecular weight, correctness of which is confirmed by investigating synthetic mixtures of polyesters. Introduces concept of a coefficient of polydispersion, by which the product may be determined. Shows Graphs method of expressing the coefficient of polydispersion. Considers possibility of using this method to evaluate the mechanism of reaction. Submitted 20 Nov 47.

27/49T22

CA

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High-molecular-weight compounds. XIX. Determination of mean molecular weight of polyesters by the end groups. G. N. Chelnokova, S. R. Rafikov, and V. V. Korshak. *Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk* 1949, 205-11; cf. *C.A.* 43, 6578b. —The mean mol. wt. values of polyesters prepd. from equimol. amts. of adipic acid and $\text{HOCH}_2\text{CH}_2\text{OH}$ detd. by carboxyl group titration check the results obtained cryoscopically or viscometrically. Mol. wts. obtained by acetylation of OH groups are substantially higher, since the low-mol.-wt. fractions remain in soln. in the procedure used: the sample in pyridine was let stand 3 days in presence of 10-fold excess of 1:1 Ac_2O -pyridine, quenched with H_2O and ice, the sepd. Ac deriv. washed with H_2O , dried and the Ac detn. made by saponification with NaOH - EtOH (3 hrs. at 100°). The divergence on samples with av. mol. wts. 1200 to 3200 was 50% or higher in many cases. Viscometric detns. used the standard Staudinger formula in C_6H_6 solns.; cryoscopic detns. were made in dioxane; CO_2H detns. were made by direct titration by 0.02 N NaOH in 60% MeOH with phenolphthalein indicator, $\text{MeOH}-\text{CHCl}_3$ solns. of the samples being used.

G. M. Kosolapoff